

ESSENTIALS OF RESEARCH PAPER WRITING

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This book is dedicated to the memory of
our friend Mark Lieberman

PREFACE

This book aims to show the process of writing a research paper according to an internationally recognized format. It details the skills that a researcher will need to produce a paper that may be considered for publication such as source selection and evaluation, organization of research findings, critical thinking, developing an argument and strengthening this through the use of reliable support. It also demonstrates the practicalities of the academic writing process: outlining, note taking avoiding plagiarism, paragraphing, acknowledgement of sources, formatting and thesis defense. By focusing mostly on secondary research, the book shows the importance of following and critiquing the given literature on a topic.

The writers hope that this book will be of use, both as a guide and as a reference for anyone attempting to produce an academic research paper.

<u>Table of Contents</u>	<u>Page</u>
Part I Fundamentals of research	4
Definition of a research paper	4
Reasons for research	4
Types of research	4
Critical thinking	5
Ethics in research	6
Research paper writing styles	7
Typing rules in the APA style	7
Process of writing a research paper	8
Part II Research and planning process	9
Choosing a topic	9
Narrowing down a topic	9
Deciding on an approach	11
Writing a thesis statement	12
Outlining the paper	14
Formatting the outline	21
Sample outlines for different types of research papers	22
Selecting appropriate sources for the research paper	32
Choosing and evaluating sources	33
Organizing the relevant information in sources	34
Acknowledging sources	35
Citing sources in text	36

Preparing references for sources used	39
Formatting APA style references	41
Source reference examples with explanations	45
Comparison between in-text citations & references	59
 Part III Drafting process	 62
Paragraphing	62
Writing topic and subtopic sentences	64
Sample topic and sentence outlines	70
Notetaking from sources	75
Paraphrasing	75
Summarizing	81
Quoting	84
Putting it all together - Research writing in context	86
Preparing note cards	89
In-text citations	90
Using reporting verbs	93
Interpreting and commenting on source information	98
Preparing concluding sentences	102
Sample paragraphs	105
Incorporating tables and figures into the paper	113
Sample table and figures	115
Introductory paragraph	118
Concluding paragraph	121
Sample introductory and concluding paragraphs	125

Part IV Finalizing process	127
Preparing the final paper for submission	127
Definition and purpose of abstracts	128
Oral presentation	129
 Part V Sample research papers	 136
Appendix: Tips for formatting	216
Index	222
References for the examples used in the book	225
Bibliography	232

FUNDAMENTALS OF RESEARCH

Definition of a research paper

Research is the extensive investigation of a particular subject and the examination of the information collected for the purpose of revealing evidence about an area of study. Research not only involves bringing together related pieces of information, but also reading the relevant information carefully and analyzing, interpreting, discovering and drawing conclusions from it. It is the intention of researchers to increase the understanding and awareness of the subject under investigation. With research, an answer to one question leads to more questions, thereby creating opportunities for new research to be done, thus enhancing knowledge.

Reasons for research

There are various reasons for conducting research. In academic environments, term papers or projects are required for some courses. In addition, most undergraduate programs require the production of a thesis/dissertation for the attainment of the degree. For post-graduate degrees, it will also be necessary to write a dissertation. Research is by no means restricted to academic life. Often, research articles are written for publication in scientific journals. In business life, especially for the research and development (R&D) and product development departments, research is an integral part of the progress of business and employees will often be asked to present their results according to an accepted format.

Types of research

Obtaining information is crucial for planning and starting any research project. Research can be categorized into two main types depending on the method used to collect data. These two types are generally known as *primary* and *secondary* research. The accumulation of new data, through either qualitative (non-numerical) or quantitative (numerical) methods, that has never appeared in any publication before is referred to as primary research. Original data is collected by various means such as questionnaires, interviews, meetings, surveys and experiments.

This type of research is especially used when the research project addresses an issue that has not been dealt with before, or when not enough research has been conducted on that particular issue. Another reason for the use of primary research would be to target a particular group of people or a specific person. Conducting primary research is valuable in that it reinforces the project work, the data

collected and prepared will therefore be unique, and doing this kind of research will augment critical thinking and add value to the paper.

Secondary research is the gathering and evaluation of data that already exists and that can be found in various publications such as databases, journals, newspapers, online articles, magazines or research reports. The term “secondary”, however, does not imply that the research is less important than primary research. This term only specifies the fact that the subject has already been researched and that the findings have been investigated and evaluated by others.

Journal articles often start with the presentation of secondary research in the first phase by analyzing findings and continue in the second phase with the analysis of the results of the primary research. In this book, the focus will be on conducting secondary research by reviewing previous findings on a particular topic from existing literature and synthesizing, evaluating and interpreting the information in the preparation of a research paper.

Critical thinking

Critical thinking involves forming and presenting opinions based on evidence and understanding. It requires the ability to be flexible, to not be fixed to one set of thoughts or opinions, and to constantly challenge ideas by constructing logical arguments against them. It requires observation, analysis and judgment.

Critical thinking is an important part of science. It is not enough for scientists, engineers or researchers to only work on problems or projects that follow already-established rules and limitations. They must be pro-active, constantly curious and willing to change their ideas in the light of new evidence. Science requires a great deal of imagination and willingness to spend time and effort trying to discover new methodologies or new theories to explain the mechanisms of the natural world. It is important for anyone interested in science or scientific methods to continually ask questions.

Naturally, simply asking questions is not enough. There must also be some use of the imagination to offer possible hypotheses which can then be tested in an attempt to find the answers. Using questions and logic to constantly review opinions, hypotheses and theories reduces errors and strengthens arguments. Searching for and using quantifiable and testable data gives authority to theories that unsupported opinions cannot and allows others to check, and possibly improve upon, the original idea.

Ethics in research

As with all disciplines, when conducting research, certain ethical norms must be adhered to, whether results will be published or not. Some general principles of research ethics can be listed as:

- Honesty
- Accuracy
- Objectivity
- Acknowledgement
- Protection of intellectual property
- Protection of people and animals
- Non-discrimination

Honesty: All information in the paper must be presented honestly. Fabricated, misrepresented or altered information, data or results in research means deception and therefore will be considered a breach of ethical code.

Accuracy: Care must be given to the presentation of accurate information that is free of errors. A paper should not be left uncorrected.

Objectivity: Interpretations of the analysis of data must be objective rather than subjective for the reliability and validity of the study. Any bias that may occur as a result of a person's emotional values must be avoided. Researchers should remain impartial to the conclusions of the study.

Acknowledgement: Credit for information used in the paper from other people's work must be given by writing citations in the text and by providing the relevant reference entries in the references at the end of the paper. Someone else's words or ideas should never be presented as original data. Plagiarism must be avoided. Also, in cases where research is done collaboratively, the names of all the contributors should be included. Those who do not contribute should not be shown as having a role in the production. All contributors are responsible for the entire work, not just for the specific parts they prepare.

Protection of intellectual property: For any copyrighted material from published or unpublished sources to be either reprinted or adapted in the paper, it is a requirement to acquire the permission of the original creator of that particular material, whether it is a table, figure or picture.

Protection of people in research: For qualitative or quantitative studies, human participation may be necessary. The basic ethical rule concerning the use of human participation in research is to show respect. People should also give consent for their participation in any studies. Moreover, participants

should not be harmed in any way. Risks should be kept as low as reasonably practicable. Finally, the personal information of participants should be kept confidential.

Protection of animals in research: Some studies make use of animals while conducting experiments. In such cases, researchers are responsible for making sure that the appropriate care is given to the animals during testing. Ensuring animal welfare is a fundamental issue in research ethics.

Non-discrimination: Attention must be paid to the just and correct treatment of people. Statements should be free of any kind of discrimination towards a person based on race, gender, age, disability, social status, education or ethnicity.

Research paper writing styles

A research paper is generally written by following certain writing styles. Different institutions have different styles that they follow. Some well known styles in writing are APA, MLA, Chicago, Columbia and IEEE. This book will focus on the use of the APA style.

The style most importantly determines the format of the paper together with the way citations and references are given. The following tips are intended as a guide to assist the typing of the paper according to the correct format. APA style citations and referencing rules can be found on pages 35-61.

Typing rules in the APA style

The use of a uniform typeface and font size, along with the correct spacing and punctuation, enhances readability, thereby increasing the value of the paper and reducing the need for editing. The recommended typing rules for APA are as follows:

Font type: Times New Roman	Line spacing: Double
Font size: 12 point font	Spacing between words: 1 space
Margins: 1 inch or 2.5 cm.	Spacing after punctuation marks: 1 space
Alignment: Left	Spacing before punctuation marks: No space

See pages 216-221 for formatting tips.

Process of writing a research paper

There are **3 stages** to writing a research paper:

1. Research and planning process

This stage involves:

- a. Deciding on a topic
- b. Finding a variety of sources that contain relevant information on the topic
- c. Reading and evaluating sources
- d. Brainstorming based on information from sources
- e. Deciding the correct approach
- f. Stating a claim
- g. Researching sources and determining support
- h. Constructing a thesis statement
- i. Organizing research findings by making an outline

2. Drafting process

This stage involves:

- a. Taking notes from selected sources in the form of paraphrases, summaries and quotations
- b. Checking that all used information is properly cited
- c. Making inferences, comments, deductions and conclusions related to notes taken from sources
- d. Writing paragraphs combining source information with original opinions
- e. Preparing references for the sources used in the paper
- f. Adapting tables and/or figures from sources, if necessary, and referring to statistical or visual information in the paragraphs

3. Revision and finalization process

This final stage involves:

- a. Revising the draft by making all necessary corrections and improvements
- b. Adding any used tables and/or figures referred to in the paragraphs at the end of the paper
- c. Preparing the final paper for submission; fixing the format by arranging the order of the paper, numbering the pages and preparing a title page
- d. Oral presentation (Thesis defense): When preparing a research paper as part of a course, after the paper is completed, a presentation may be required.

RESEARCH AND PLANNING PROCESS

Choosing a topic

- The topic should interest the researcher. Otherwise, the researcher will not be motivated by the research process and the outcome will probably be unsatisfactory.
- The topic should be significant. Trivial topics should not be chosen. The topic should be selected with a view to the future.
- The topic should be manageable. Topics that are too big (too general) may lose focus. Topics that are too narrow (too specific) are also problematic as it may be difficult to find enough source information.
- A researcher should attempt to bring an original point of view to the topic.

In order to find an appropriate topic, various methods can be used. Interesting faculty courses could be a starting point. Contemporary issues presented in the media and on the Internet could also be a source of inspiration. Sometimes, the “Contents” page of books, journals, magazines or encyclopedias can provide ideas for possible topics, as can seminars, workshops, conferences or expositions.

Narrowing down a general topic

The topic is the subject of the paper to be discussed in detail. After deciding on the topic, there will be a need to focus on a question to explore a particular feature of the topic and draw a conclusion from it.

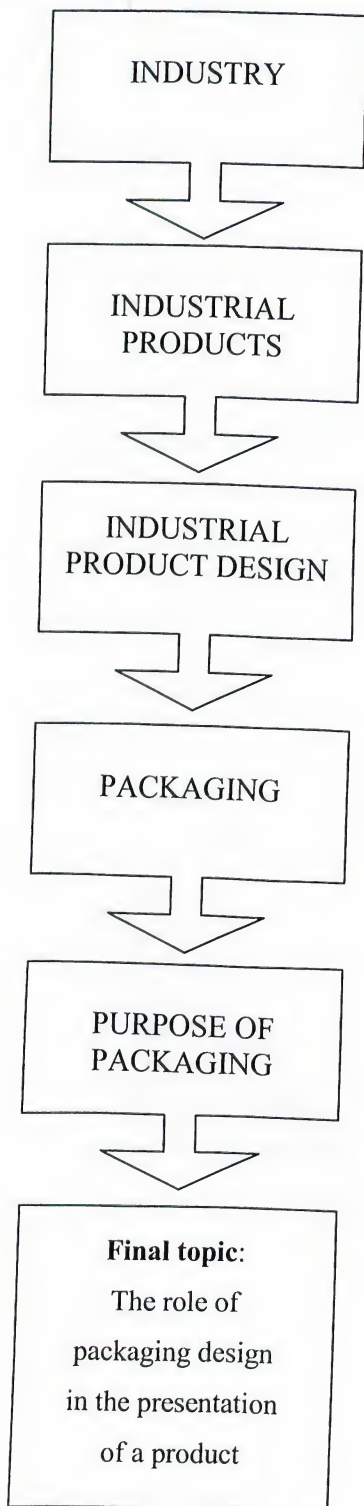
It is important to ask various questions on the topic and then try to reduce them to one main question that the thesis statement will answer. “What”, “why”, “when”, “how”, “where”, “which” questions can lead to a more clear perspective on the topic.

Make sure that the answers to the formulated questions are not self-evident. If most of the information about a topic is already common-knowledge, it is not suitable for research. Questions that require more sophisticated answers will result in more productive papers.

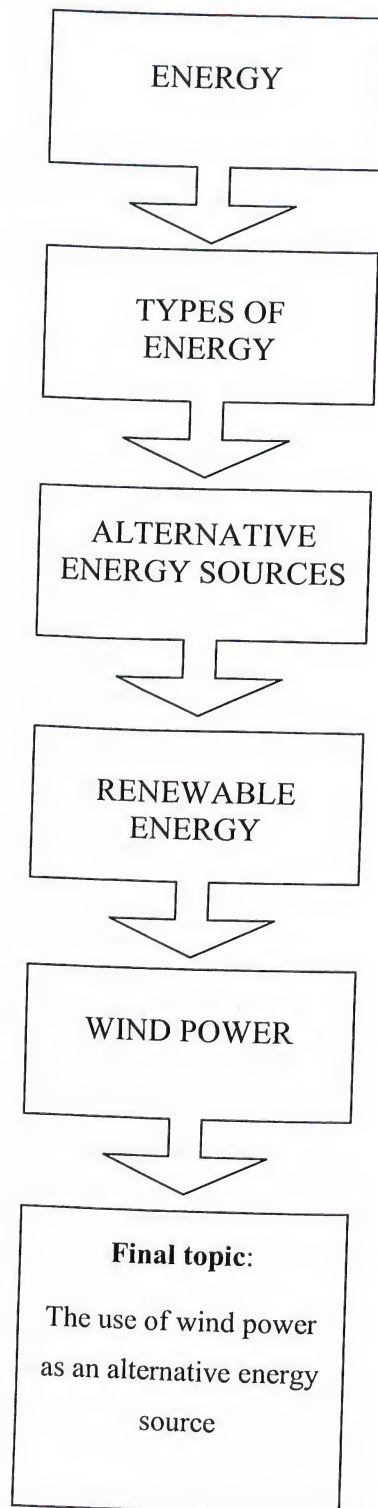
Many initial topics are too broad. It is possible to narrow down a broad topic, working down step by step towards a specific topic that will be suitable for research. The following examples show how to logically use narrowing to arrive at a manageable topic of area.

Samples for narrowing down a general topic

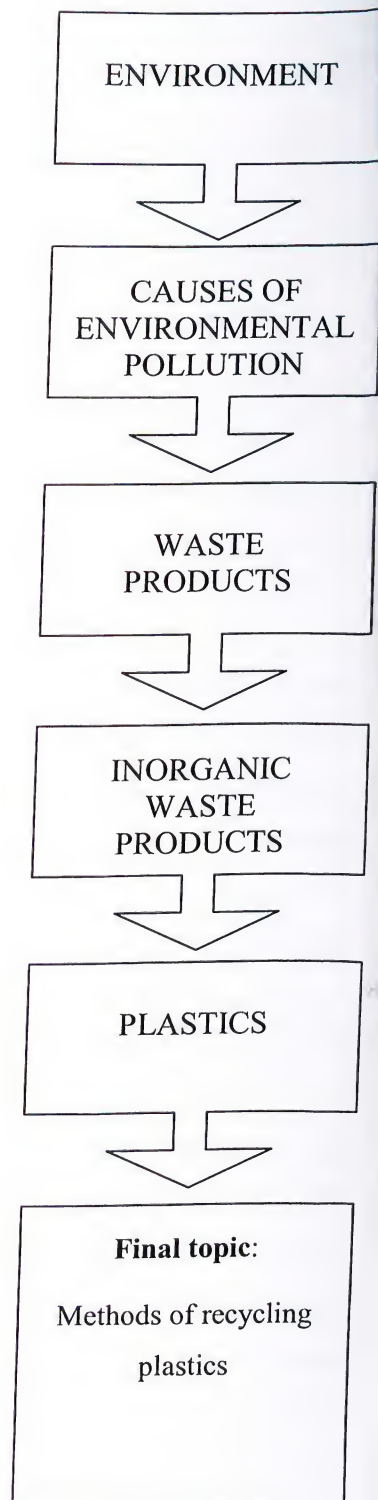
Sample 1



Sample 2



Sample 3



Deciding on an approach

The next step to take after deciding on the topic is to choose what the approach to that topic will be. There are 2 main forms of research paper:

1. Papers with a persuasive or argumentative approach
2. Papers with an expository or analytical approach

In **persuasive** research writing, the paper aims to convince the reader of the writer's point of view by presenting various valid reasons as support. In this type of research paper, the writer tries to persuade the reader to agree with a particular attitude, belief or position regarding the subject matter by using valid, credible and provable information.

An **argumentative** research paper also includes persuasion, but presents evidence in order to support the writer's point of view towards a debatable issue. In this case, the writer takes an overt position regarding the topic. Here, the aim of the writer is to convince the reader by providing information from sources that supports the paper's point. However, the writer is still responsible for producing a credible argument and must produce convincing and valid evidence.

An **expository** research paper examines a topic from different perspectives by gathering important facts and making critical evaluations. In this case, the writer's position does not have to be explicit as they are not required to favor one particular viewpoint. In this type of research paper, the writer explains the subject matter by separating it into its components, and after thorough research into each component, presents the accumulated data in an organized way so that the reader is more informed about the subject.

The **analytical** research paper also aims to explain and evaluate the subject matter objectively. However, all the necessary determinants, constituents, elements, factors and variables should be taken into consideration as this type of research requires a broader perspective. The analytical research paper presents a clear synthesis of all the components involved. As with an expository paper, the writer is not required to favor one viewpoint.


The type of approach researchers take will determine the type of the paper they will write.

Writing a thesis statement

Once the topic has been selected, a claim must be made to indicate the reason for conducting the research. The paper will focus on this claim and try to verify it. This claim can be developed after an extensive amount of research and brainstorming has been done.

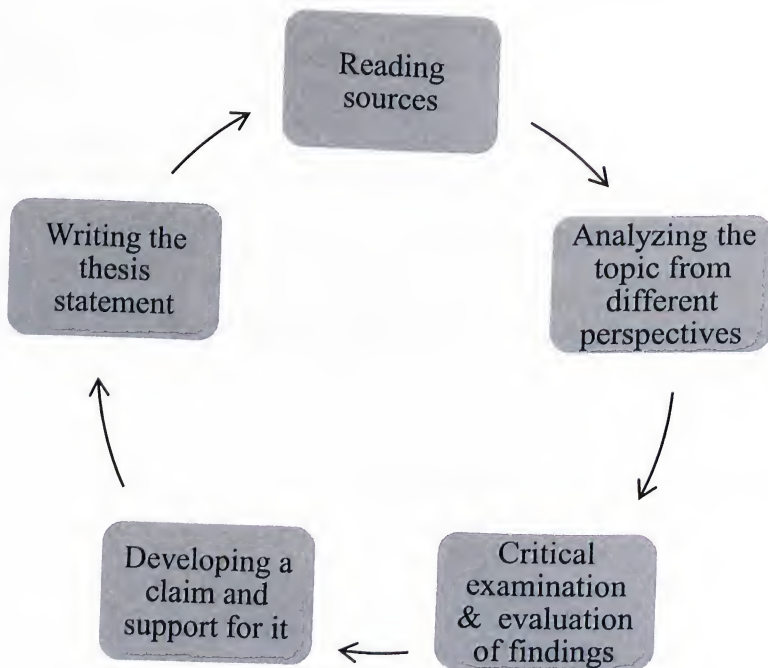
Reading about a topic from various sources will provide information that will help to analyze the topic from different perspectives. Critical examination of the information and evaluation of any findings will be necessary during this period.

There are various methods that can be used while dealing with a topic:

- 
- 1. advantages, benefits or gains
 - 2. drawbacks, dangers, threats or risks
 - 3. important factors; causes or effects
 - 4. problems or solutions
 - 5. differences or similarities
 - 6. major areas of use or applications
 - 7. methods or types
 - 8. role or function

Finally, integrating the claim with verifying support will lead to a strong thesis statement.

The process of writing a thesis statement



ODEV

Examples of persuasive thesis statements

Topic: Devaluation of currency

Thesis: Developing countries must stop following policies of currency devaluation, as it reduces purchasing power, discourages national enterprise and makes economic acceptance harder in the international market.

Topic: The demolition of the Ataturk Cultural Centre

Thesis: The Ataturk Cultural Centre in Istanbul's Taksim Square should not be demolished due to the unique role it has played in the history, architectural development and social life of the Turkish Republic.

Topic: Dynamic city growth

Thesis: As a city region expands to accommodate an increasing population, it is important that the growth is "dynamic" since this provides the integration of the central business district with residential areas, easy accessibility into the city, and most important of all, sustainability.

Examples of argumentative thesis statements

Topic: Price discrimination

Thesis: In spite of the fact that price discrimination brings inequity, it is a very attractive strategy for some monopolistic firms because it maximizes profits, separates customers according to their expenditure limits, raises economic welfare, increases producer surplus and brings new customers into the market.

Topic: The effects of the BTC oil pipeline

Thesis: Despite the potential economic benefits of the Baku Tbilisi Ceyhan oil pipeline to its stakeholders, the project presents clear environmental dangers at its refineries, along the route of the pipeline itself and also at sea as the oil is later transferred and transported by ship.

Topic: RFID technology

Thesis: Although RFID can be costly to implement, it makes asset management and inventory warehouse applications more efficient, and also allows secure access control.

Examples of expository / analytical thesis statements

Topic: Prison architecture

Thesis: Prison architecture, which has a profound psychological impact on the lives of convicts, is usually determined by three main factors which are the realization of an architect's penal ideas, the requirements of government policy, and the constraint of funding.

Topic: Microorganisms

Thesis: Microorganisms can be utilized in many ways and their most common applications are in food production and preservation in addition to their use as a food source themselves.

Topic: Bauhaus

Thesis: Bauhaus, a design school of the early twentieth century with an anti-academic character, helped create modern industrial product design through its focus on functionality, its marrying of technology and art and its educational strategy.

Outlining the paper

Before starting to write, a well-planned outline must be prepared. An outline is the plan of the paper that will map the parts of the body of the paper in the order that they will appear. The outline must evolve from the thesis statement and be structured in an organized way. A paper based on an unstructured, disorganized outline will be confusing to read and it will be easy for the reader to become disinterested. Therefore, there must be a logical and fluent flow of ideas within the outline so that the reader can follow the ideas without being confused.

The outline can only be formed after careful analysis of sources, as it will be based on the information accumulated from the readings, and the divisions of the outline will reflect the research findings. Researchers cannot prepare an outline for a research paper without consulting sources. Unsubstantiated assertions cannot be part of the outline.

Steps for preparing a research paper outline

The first step to take in the preparation of an organized outline is to make a list of all the relevant information acquired from various sources. Initially, any detail that may be of use should be included in the list. Later, after more consideration, those details that are unnecessary or redundant can be eliminated.

The outline will be made up of headings and sub-headings. Thus, the second step is to group the listed ideas by placing similar and related ideas under the same headings. Headings must be arranged in coordination to make them equal to each other in terms of significance. Moreover, each heading will be divided into at least two further sub-headings. Nevertheless, each outline is unique, especially in terms of the sub-headings and the divisions listed under the headings.

The following example shows the process of brainstorming from sources to produce an outline.

Thesis: Despite being a recent technology, nanotechnology is proving to be an indispensable part of life by offering many solutions and improvements in medicine, creating materials in industry and providing opportunities for alternative means of energy.

As can be seen from this thesis statement, the advantageous uses of nanotechnology are studied within 3 main areas. Here are the ideas that come from various sources about the first usage field of nanotechnology:

I. Its use in medicine

- Nanophosphors: Mini fluorescent phosphors used in detecting biological substances
- Cantilevers: Microscopic devices in the shape of tiny levers which allow fast detection
- Nanowires: Nanoscale sensing wires used for detection
- Nanoshells: Tiny beads coated with metals such as gold, used to kill cancerous cells
- Nanoparticles: Nanodevices used for drug delivery
- Nano medicine products: Implants, sensor prostheses and artificial tissues

After collecting as many ideas as possible, they can be grouped in the form of an outline. Each major division of the thesis statement should be dealt with in a different section.

It is important to devise an outline around logical headings for sub-divisions. For the sake of clarity, parallel and consistent grammatical structures should be used whenever possible.

By taking into consideration the ideas listed under the division of nanotechnology in medicine, the subsequent headings are formulated. The grouping of the section is shown below.

- Nanophosphors, cantilevers and nanowires provide efficient detection and can therefore be listed under “Diagnosis”.
- Nanoshells and nanoparticles are used in cancer therapy. Implants, sensor prostheses and artificial tissues are also new and promising ways of treatment in the case of organ loss or other kinds of injuries. Thus, these applications can all be listed under “Treatment”.

I. In medicine

A. Quick and reliable diagnosis

1. Nanophosphors
2. Cantilevers
3. Nanowires

B. Effective treatment

1. Fresh perspectives for cancer therapy
 - a. Nanoparticles
 - b. Nanoshells
2. New and promising products for other diseases and injuries
 - a. Implants and sensor prostheses
 - b. Artificial tissues

Here are pieces of information found from sources about the use of nanotechnology in different fields of industry:

II. Its use in industry

- Adding new functions to food products: On-demand foods, nutrients, increased bioavailability, longer shelf life, improved barrier functions, easy monitoring and tagging of food items, edible coatings
- Adding improved functions to vehicles: Less friction and wear, reduced weight and increased safety in cars, mechanical enhancements and various new functions in air vehicles

Grouping these ideas under relevant headings can lead to an outline division as follows:

II. In industry

A. Nanotechnology applied to the food industry

1. Food processing
 - a. On-demand foods
 - b. Nutrients
 - c. Bioavailability
 - d. Shelf life
2. Food packaging
 - a. Improving barrier functions: Mechanical, chemical, thermal and microbial properties
 - b. Monitoring and tagging of food items
 - c. Edible nano-coatings

B. Nanotechnology applied to automotive and aerospace industry

1. Automotive
 - a. Less friction and wear
 - b. Reduced weight
 - c. Increased safety
2. Aerospace

- a. Mechanical enhancements
- b. Added functions

Below are pieces of information found from sources about the use of nanotechnology in energy applications:

III. Its use in energy

- Quantum dots: More efficient lighting in photovoltaics
- Nanofabrication of catalysts: Improved efficiency in fuel cells
- Nanoparticle coatings: Solution of the mercury problem
- Nanobatteries: Advanced battery technology

All this information found about the use of nanotechnology in the field of energy can be organized under section III as follows:

III. In energy

A. Reduced energy consumption

1. Increased efficiency in photovoltaics
2. Increased efficiency in fuel cells

B. Revolutionary environmentally-friendly energy systems

1. Solution to the mercury problem in broken bulbs
2. Advanced battery technology

Suggestions that can be useful during the outlining and research process:

- As the outline will be based on research findings, it is important to organize the sources and the necessary information in them so that it becomes easy to find them later during the note taking stage and when preparing the reference list. While deciding about source information, **citations** for the chosen parts may be written on the outline. This will be useful when writing paragraphs, as the citations can then be easily added. The rules for citations are explained on pages 36-38.
- **Highlighting** the necessary information in the sources can also ease the writing process. Writing key words next to the highlighted parts of the sources, indicating both the **subject** and the **outline division**, will allow the easy location of each piece of information when writing paragraphs.

The outline of the nanotechnology paper with citations for the research findings can be found on the next page.

Beneficial Usage Fields of Nanotechnology

Thesis: Despite being a recent technology, nanotechnology is proving to be an indispensable part of life by offering many solutions and improvements in medicine, creating advanced materials in industry and providing opportunities for alternative means of energy.

I. In medicine

A. Diagnosis

1. Quantum dots (Bayer, 2009, p. 40)
2. Nanophosphors (Bayer, 2009, pp. 39-40)
3. Cantilevers (Surendra, 2007, "Cantilevers", para. 1-3)
4. Nanoparticles (Surendra, 2007, "Nanoparticles", para. 1-2)

B. Treatment

1. Fresh perspectives for cancer therapy
 - a. Nanoparticles (Heath, Davis & Hood, 2009, p. 49)
 - b. Nanoshells (Surendra, 2007, "Nanoshells", para. 1-3)
2. New and promising nanomedicine products being researched
 - a. Implants and sensor prostheses (Institution of Mechanical Engineers, n.d., para. 5-8)
 - b. Artificial tissues (Institution of Mechanical Engineers, n.d., para. 8)

II. In industry

A. Nanotechnology applied to food industry

1. Food processing
 - a. On-demand foods (Joseph & Morrison, 2006, p. 10)
 - b. Nutrients (Joseph & Morrison, 2006, p. 10) (Miller & Senjen, 2008, p. 12)

c. Bioavailability (Mozafari et al. cited in Miller & Senjen, 2006, pp. 13-14)

d. Shelf life (Miller & Senjen, 2008, pp. 12-13)

2. Food packaging

a. Improving barrier functions such as mechanical, chemical, thermal and microbial properties (Joseph & Morrison, 2006, pp. 7-8)

b. Monitoring and tagging of food items (Joseph & Morrison, 2006, p. 8)

c. Edible nano-coatings (Miller & Senjen, 2008, p. 15)

B. Nanotechnology applied to automotive and aerospace industry

1. Automotive

a. Cost and energy saving materials (Frost & Sullivan Research Service, 2004, para. 1-3, 14) (“Nanotechnology-based Lubricants”, 2009, para. 1)

b. High performance materials with less wear and reduced weight (“Nanotechnology-based Lubricants”, 2009, para 1, 2, 6)

c. Increased safety (Birch, 2009, “Enhancing Safety”, para. 1)

2. Aerospace

a. Mechanical enhancements (Fidelus, Lewandoska, Bielinski & Malsch, 2007, pp. 18, 22) (Meyyappan, 2007, para. 1-2, 4)

b. Added functionalities (Fidelus et al., 2007, p. 114)

III. In energy

A. Reducing of energy consumption

1. Increased efficiency in photovoltaics (Jenkins, 2005, para. 2-6)

2. Increased efficiency in fuel cells (“Energy Applications of Nanotechnology”, 2007, para. 1-3, 9-12)

B. Offering revolutionary environmentally-friendly energy systems

1. Solution to the mercury problem in broken bulbs (Randhawa, 2008, p. 14)
2. Need for an advanced battery technology (McClellan, 2008, para. 1-2, 20)
(“Revolutionary New Nanotechnology”, 2005, para. 3, 7) (Front Edge Technology, 2008, “The World's Thinnest Rechargeable Battery”)

(The references for the sources used in the above outline can be found in the research paper on pages 158-176)

Time and effort are required to establish a properly organized outline that is well supported by relevant information from various documents. Any revisions of the outline will involve the arrangement of ideas and the addition and/or deletion of sources with the necessary corrections in citations.

Also, during the process of adding new ideas to the outline sections, be careful not to duplicate information that already exists. An overlapping of ideas in previous or subsequent sections will lead to repetition in the text. Such errors can only be avoided through ongoing and thorough examination of the ideas in different sections.

Although corrections and improvements of outline sections made before writing the paper will usually suffice, they may, in some cases, require further revisions and alterations throughout the process of writing paragraphs until the final paper is submitted.

While note taking from sources and integrating them into the paragraphs, the elimination of some sources or the addition of newly found sources is natural as research is an ongoing process. Thus, it should be noted that the outline will serve as a basis of organization from which the paragraphs will evolve. Therefore, during the writing process, some changes in the outline and sources used may occur.

The format rules of the outline

The outline also follows the basic formatting rules applied to all the other parts of the paper, which are: 12 pt Times New Roman, 1 inch (2.5 cm) margins, double spacing between the lines, and left alignment.

Main components

The title of the paper is included in the outline, and it must be written at the top left corner of the page. The first letter of each word in the title must be written in capital letters (articles and prepositions of less than 5 letters within the title are not capitalized). The thesis statement is entered two (double) spaces below the title. The major divisions of the paper, as indicated in the thesis, are entered in outline format.

Alternate use of numbers and letters to indicate the level of importance of the divisions

Roman numerals (I II III) are used to show major divisions indicating the main ideas. Capital letters (A B C) are used to show the subordinate ideas. Arabic numbers (1 2 3) are used to show supporting details. Lowercase letters (a b c) are used to show further sub-divisions of supporting details.

Language

The notes for symbols at the same level (e.g. 1 & 2) should be written using parallel wording or grammar for easy reading and understanding.

Number of divisions

Depending on the content of the research paper, some sections will have more subdivisions than others, but all divisions must contain at least two sub-points. The symbols at the same level should have points that are equal in terms of importance.

Punctuation and Spacing

Letters and numbers are followed by a period. After the period following each symbol (numbers & letters), two typewriter spaces must be given. However, as the topic outline consists of phrases and words only, no period is required at the end of entries.

Capitalization

The first letter of the first word entered must be a capital letter; subsequent words are written with lowercase letters.

Sample outlines for different types of research papers

The following two outlines have been organized for **analytical papers**

AK-47: The People's Choice

Thesis: Designed according to principles established in World War II, the AK-47 has since become the world's most successful weapon not only because it is physically robust and reliable, but also due to its huge levels of availability which have given it a unique and iconic status in popular culture.

I. Early origins in World War II

A. German invasion of Russia

1. German use of MP-40
2. Soviet use of inadequate rifles

B. Soviet change to automatic weapons

1. Soviet switch to PPSH-41
2. Mass manufacturing of PPSH-41

C. German need for a new type of weapon

1. German development of MP-44
2. First reported use of "Assault Rifle"

D. Soviet desire to match MP-44

1. Design competition for a new weapon
2. Visual similarity of AK-47 to MP-44
3. Same mechanism as Garand M-1

II. Robust and reliable design

A. Wide latitude in specifications

1. M-16 unreliability in Vietnam

2. AK-47 manufactured superiority
 3. AK-47 reliability in Iraq
- B. High level of effectiveness
1. AK-47 specifications
 2. M-16 specifications
 3. Ammunition differences
 - a. Superiority of 7.62 mm over 5.56 mm
 - b. Good supply of ammunition
 4. Number of weapons available
- C. Effective use in combat
1. Straight sighting line
 2. Total casualty figures
- III. Wide availability
- A. Use and supply
1. Few moving parts
 2. Good supply in Vietnam
 3. Good supply in Afghanistan
- B. Price
1. Price in post-invasion Iraq
 2. Prices in other countries
 3. Prices from weapons dealers
- C. Adaptability
1. Stock removal
 2. Variant with folding stock
 3. Use by terrorists

D. Influence worldwide

1. Total number of AK-using countries
2. Allende suicide
3. Egypt, Africa, Europe, Cuba and Venezuela

IV. Iconic status

A. Use by officials

1. Mozambique flag
2. Recognised seals, flags and banners

B. Use by individuals

1. Osama Bin Ladin
2. Saddam Hussein
 - a. Import of AK copies and manufacture of Iraqi version
 - b. Capture in 2003
 - c. Possession of gold-plated Kalashnikov

C. Popularity in the United States

1. Use by gangs
2. Display of weapons by criminals
3. Appearance on television news

D. Popularity in upmarket media

1. List of World-changing products
2. BBC special documentaries
3. "Kalashnikov" song at 2008 Eurovision
4. War rugs of Afghanistan

E. Use in merchandising

1. AK-47 imagery on products

2. Kalashnikov vodka
3. Philippe Starck lamp

(The research paper of this outline is on pages 177-197)

Understanding the Problem of Brain Drain

Thesis: The analysis of the causes and effects of brain drain both on the home country and the host country gives insight into this phenomenon, revealing that the probable solutions to it could be either to reverse it or profit from it.

I. Reasons

A. Pull factors of the host country

1. Better education
2. Work opportunities

B. Push factors of the home country

1. Economic problems
2. Political instability
3. Lack of further education opportunities
4. Poor health services

II. Negative effects on the home country

A. Fiscal costs

1. Loss of tax revenue
2. Loss of investment in education

B. Human capital costs

1. Reduced economic growth

2. Inadequate public services

III. Solutions

A. Reversing the brain drain

1. Providing stable environment in the home country

- a. Political stability
- b. Socio-economic stability

2. Improving living conditions

- a. Accommodation
- b. Employment

B. Profiting from brain drain

1. By enabling knowledge transfer and sharing

- a. Efforts of international organizations
- b. Contribution of G8 countries
- c. Role of the diaspora

2. By imposing brain drain tax

- a. Baghwati proposal
- b. Voluntary taxation proposal

3. By making service to country of origin mandatory

(Adapted from the work of Berat İnci, Çağatay Şensoy, Mustafa Mutlu Bayraktar and Tuğrul Cem Bıçak)

The following two outlines have been organized for **persuasive papers**

Vernacular Architecture

Thesis: The time has come to re-evaluate vernacular architecture in recognition of the inherent rationality displayed in its relationship with the past and present, its suitability for local climate and materials, and its ability to meet the unique requirements of its users.

I. Relationship with past and present

A. Evolution from one generation to next

1. Inherited knowledge and experience
2. Familiarity with the environment

B. Immunity to whims of fashion

1. Function as opposed to form
2. Vernacular as a tradition

C. Denial of the past in formal architecture

1. Revolution as opposed to evolution
2. Denial in roots of modernism

D. Style as a construct of formal architecture

1. Reflection of present fashion
2. Usage of international style
3. Imitation of vernacular design in modern architecture

II. Suitability for local climate and materials

A. Climate

1. Temperature
 - a. Scandinavia
 - b. The Middle-East

- 2. Precipitation
 - a. Eastern Black Sea
 - b. The Mediterranean
- B. Materials
 - 1. Natural materials
 - 2. Man-made materials
- III. Ability to meet user requirements
 - A. With traditional vernacularity
 - 1. Self-built houses
 - 2. Houses built by builders
 - B. With today's urban vernacularity
 - 1. Synchronized design and construction stages
 - 2. Rooms as basic modules

(Adapted from the work of Emir Aykut Pekdemir)

Reducing Personal Carbon Footprint

Thesis: People can reduce their own carbon footprint by paying attention to issues such as transportation, nutrition, heating and cooling and their use of electricity in their daily lives.

- I. Paying attention to transportation
 - A. Private transportation
 - 1. Vehicle choice
 - 2. Fuel type
 - 3. Driving style

B. Public transportation

1. Use of buses
2. Use of rail transit systems

II. Paying attention to nutrition

A. When shopping

1. Using local products
2. Eating lower energy consumption foods
3. Buying directly from producers
4. Reducing packaging

B. When cooking

1. Cooking equipment
2. Cooking techniques

III. Paying attention to heating and cooling

A. Selection of proper energy source

1. Solar energy
2. Geothermal energy
3. Natural gas

B. Use of proper energy source efficiently

1. Insulation
2. Central heating

IV. Paying attention to electricity use

A. Less residential consumption

1. Switching off appliances
2. Avoiding stand-by mode
3. Switching off lights

4. Using timers to control appliances
- B. Less industrial consumption
 1. Implementation of energy-efficiency policies
 2. Usage of waste-reduction measures

(Adapted from the work of Metin Tezcan, Dila Türkmen, Şamil Yılmaz and Said Gülşen)

The following outline has been organized for an **argumentative paper**

E-Commerce: A New Phenomenon

Thesis: Although e-commerce has been criticized in regard to its security risks, it is an excellent alternative to traditional commerce as it drastically reduces the consequences of the informal economy; it greatly facilitates the trading process and provides an excellent opportunity to gather valuable commercial information.

- I. Security risks of e-commerce
 - A. Easy deception
 1. Forgery
 2. Identity theft
 - B. Lack of efficient solutions
 1. Inadequate global laws
 2. High cost of pursuing legal action in foreign countries
- II. Reduction of the consequences of the informal economy
 - A. Preventing tax evasion
 1. Registered transactions
 2. E-governance

B. Curbing the contraband products

1. Internet law
2. Smuggling

III. Facilitation of the trading process

A. For companies

1. Promotes global reach
2. Enables electronic payment systems

B. For customers

1. Cost savings
2. Online auctions
3. Transaction tracking

IV. Provision of valuable commercial information

A. Data for firms

1. Transaction databases
2. Customer targeted advertising

B. Data for customers

1. Practical and fast price comparison
2. Easy access to global product reviews

(Adapted from the work of Mehmet Eren Küçükçolak, Yiğit Findik and Mert Bulut)

Selecting appropriate sources for the research paper

Support for the argument should be based on a selection of different types of sources. Research findings should reflect a mixture of information from various experts in the field and not be heavily dependent on a single source. The following is a possible list of both printed and online sources.

Print sources

- Books, edited books, handbooks, translated books
- Encyclopedias
- Dictionaries
- Professional and academic journals
- Magazines and newspapers
- Reports
- Master's theses or doctoral dissertations
- Conference papers
- Brochures and catalogues
- Course handouts
- Government publications
- Patents

Online sources

- E-books, abstracts
- E-encyclopedias
- Online dictionaries
- Professional and academic e-journals
- E-magazines and e-newspapers
- Reports
- Master's theses or doctoral dissertations
- Conference papers
- Brochures and catalogues
- Course handouts on a university web page
- Government publications
- Patents
- Online articles
- Online versions of print sources
- Sources from a database

Ongoing research is essential to become better acquainted with the topic and to develop a more thorough understanding and awareness. Reading more literature allows the accumulation of more information, but should be done on a selective basis, and should locate relevant and useful information while eliminating irrelevant points. Defense with evidence creates a credible paper.

Source choice and evaluation

When searching for a good quality source, it is advisable to check for reliability. Accuracy, objectivity, and validity are also important especially in terms of the content of articles, and the credibility and qualification of authors are also matters that require attention when evaluating the reliability of a source.

Not all information found on the web necessarily comprises good, reliable information.

- Professional and scholarly journals and magazines can be counted as good sources as they usually contain articles written by experts in the field. Many sources of this type can also be found on databases.
- Use of reliable statistical data, tables, figures and pictures can help to provide evidence or illustrate a point.
- Blogs and personal websites should be avoided as they are not inclined to use sound information and may contain information that is not based on facts. Also, as information placed on wiki sites is continuously being altered and amended, they are not ideal sources to use in research however informative they may be.
- Dates must be checked to ensure that material presented is current and valid. Outdated articles will most likely not offer relevant information pertaining to the contemporary world, particularly in the field of science.
- There is a variety of online sources which are suitable to be used in academic research. When choosing sources from the Internet, it is important to pay attention to domain name extensions as sources with extensions such as “.edu” (educational institutions), “.gov” (government) and “.org” (organization) are usually more reliable.
- Websites that are owned by private companies trying to promote products are not ideal sources to refer to, as there will be substantial bias involved.
- Grammatical errors and spelling mistakes in writing indicate that the material may not be reliable. A selection of sources free of such errors should be made.
- The credibility of the writer of an article is also an important point to consider. Ideally, when citing outside sources in a research paper, the aim is to refer to expert knowledge. Authors’ credibility can be checked through their websites by paying attention to published articles in journals and employment details and association with organizations or institutions with a

reputation for high standards. In addition, if the author in question has had work cited in other sources, that would also indicate credibility.

Organizing the relevant information in sources

The sources selected for the research paper will be cited both in the text and on the references page; therefore, it is crucial to note all the necessary information. Both the content, in terms of the specific pages used, and the reference information will be needed.

Each type of source will require different elements for the references. For **print sources**, the reference information includes details such as the writer(s), the title(s), the date and the publication information.

1. For example, when using a **book** as a source, the pages on which there is information about the writer, the date and place of publication, the publisher etc. (usually, the first two pages of the book contain this information) will be needed when writing citations and references.
 - An **edited** book includes either different chapters or articles, each written by different writers and compiled by an editor(s) or different chapters or articles with no writers specified for each chapter or article and only the name of the editor(s) given on the cover. The “Contents” page of a book is the best place to refer to in order to determine what kind of edited book it is. On this page, all the chapters and articles may be listed with their writers.
 - Also, a **book translated** into English may be used. In this case, the name of the translator as well as the original writer of the book will be needed. In addition to the date of publication of the translated book, the publication date of the original work will also need to be noted.
2. While using a **magazine** or a **journal** as a source, the volume and issue number and the pages of the article will be necessary. All this information appears on the cover page and “Contents” page.
3. The same type of information will be required for other types of sources such as **reports, master’s theses or doctoral dissertations, conference papers, brochures and catalogues** as well.
4. For **patents**, knowing the patent number, the inventor and the office that issued it is crucial.

For **web sources**, as well as the reference information including writer(s), date, title and volume/issue numbers for sources such as periodicals, journals or magazines, the locator information must also be saved. Digital Object Identifier [DOI] numbers have started to be assigned for the identification of intellectual property in the digital environment. Therefore, if the DOI number is available for an online article, it must be saved for use in the references later on. If no DOI is available, then the URL must be used.

Acknowledging sources

Reading a wide variety of sources and citing them in the paper shows how extensive the research is. Research increases the reliability and value of any academic work. A research paper that cites information from diverse and reputable sources gains credibility.

Acknowledgement of sources is a requisite for academic and scientific research. Every researcher must give credit to the original writers of any information that they have used in their own work. Sources must be cited in the body of the paper, and for each citation, a reference entry containing more detailed information about the source must be written.

Steps of acknowledging sources



Giving in-text citations
in paragraphs

Giving references
at the end of the paper

An APA in-text citation is generally composed of 3 pieces of information: the surname of the writer, the date and the page number.

(Schröder, 1986, p. 14)

This abbreviated information about each source represents an entry in the “References” page. The reference entry provides all the necessary information to retrieve or gain access to the original source for further reading.

Schröder, G. (1986). Communication and standardization in the context of a global CIM concept. In T. Bernold & W. Guttropf (Eds.), *Computer integrated manufacturing: Communication / standardization / interfaces* (pp. 1-26). Amsterdam: Elsevier Science Publishers.

A citation within the text is only meaningful when there is a reference entry for it, which denotes all the essential information about the source. Therefore, citing a source means both giving in-text citations and providing a list of references at the end of the paper.

Giving citations and references is a necessary means to avoid plagiarism, which is a serious violation of academic rules. Acknowledging the original source is a legal requirement.

reputation for high standards. In addition, if the author in question has had work cited in sources, that would also indicate credibility.

Organizing the relevant information in sources

The sources selected for the research paper will be cited both in the text and on the references page. Therefore, it is crucial to note all the necessary information. Both the content, in terms of the specific pages used, and the reference information will be needed.

Each type of source will require different elements for the references. For **print sources**, the reference information includes details such as the writer(s), the title(s), the date and the publication information.

1. For example, when using a **book** as a source, the pages on which there is information about the writer, the date and place of publication, the publisher etc. (usually, the first two pages of the book contain this information) will be needed when writing citations and references.
 - An **edited** book includes either different chapters or articles, each written by different writers and compiled by an editor(s) or different chapters or articles with no writers specified for each chapter or article and only the name of the editor(s) given on the cover. The “Contents” page of a book is the best place to refer to in order to determine what kind of edited book it is. On this page, all the chapters and articles may be listed with their writers.
 - Also, a **book translated** into English may be used. In this case, the name of the translator as well as the original writer of the book will be needed. In addition to the date of publication of the translated book, the publication date of the original work will also need to be noted.
2. While using a **magazine** or a **journal** as a source, the volume and issue number and the pages of the article will be necessary. All this information appears on the cover page and “Contents” page.
3. The same type of information will be required for other types of sources such as **reports, master’s theses or doctoral dissertations, conference papers, brochures and catalogues** as well.
4. For **patents**, knowing the patent number, the inventor and the office that issued it is crucial.

For **web sources**, as well as the reference information including writer(s), date, title and volume/issue numbers for sources such as periodicals, journals or magazines, the locator information must also be saved. Digital Object Identifier [DOI] numbers have started to be assigned for the identification of intellectual property in the digital environment. Therefore, if the DOI number is available for an online article, it must be saved for use in the references later on. If no DOI is available, then the URL must be used.

Acknowledging sources

Reading a wide variety of sources and citing them in the paper shows how extensive the research is. Research increases the reliability and value of any academic work. A research paper that cites information from diverse and reputable sources gains credibility.

Acknowledgement of sources is a requisite for academic and scientific research. Every researcher must give credit to the original writers of any information that they have used in their own work. Sources must be cited in the body of the paper, and for each citation, a reference entry containing more detailed information about the source must be written.

Steps of acknowledging sources



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in paragraphs

Giving references
at the end of the paper

An APA in-text citation is generally composed of 3 pieces of information: the surname of the writer, the date and the page number.

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Schröder, G. (1986). Communication and standardization in the context of a global CIM concept. In T. Bernold & W. Guttropf (Eds.), *Computer integrated manufacturing: Communication / standardization / interfaces* (pp. 1-26). Amsterdam: Elsevier Science Publishers.

A citation within the text is only meaningful when there is a reference entry for it, which denotes all the essential information about the source. Therefore, citing a source means both giving in-text citations and providing a list of references at the end of the paper.

Giving citations and references is a necessary means to avoid plagiarism, which is a serious violation of academic rules. Acknowledging the original source is a legal requirement.

Citing sources in text

When using a specific part of a source as a paraphrase, summary or quotation, the standard citation format is giving the surname of the writer, the date and the page number.

(Riedinger, 2000, p. 12)

However, when referring to the entire content of a source, the citation includes only the writer's surname and the date. There is no need to give a page number.

(Riedinger, 2000)

There are different and special cases regarding the 3 basic elements of citation.

Sources with 1 writer: Always include the surname of the writer in the citation. There is no need to give the writer's first name or initials.

(Bagwell, 2007, p. 1703)

Sources with 2 writers: Always include the surnames of both writers in the citation. Use ampersand (&) between them.

(Leyens & Peters, 2003, p. 393)

If the source has 2 writers with the same surname, the initials of both writers are also included in the citation for clarity.

(G. E. Belch & M. A. Belch, 1998, p. 690) (M. Lüsted & G. Lüsted, 2005, p. 13)

Sources with 3-5 writers: If a source has been written by 3-5 writers, in the first citation, the name of all writers must be given; however in subsequent citations, put the first writer's surname followed by **et al.**, which is a Latin abbreviation for "and others".

First citation: (Armstrong, Flowers, Spears & Nielsent, 2002, p. 155)

Any later times: (Armstrong et al., 2002, p. 160)

Sources with 6 or more writers: If there are 6 or more writers, put the first writer's surname followed by **et al.** in all citations.

(Gubler et al., 2005, p. 3)

Edited sources: When using an edited book, check to see whether or not the book includes different chapters written by different writers. In the absence of different writers for chapters in the book, the editor(s) will be used in the citation.

Editors: N. M. Cameron & M. E. Mitchell

Citation: (Cameron & Mitchell, 2007, p. 227).

However, if the chapters in the edited book have been written by different writers, then the writer(s) of the chapter should be used in the citation. In such compiled books, the editor will be indicated on the cover, whereas the individual writers will be found inside in the “Table of Contents” page.

Editors: T. Bernold & W. Guttropf Writer of the article: A. S. Liss Citation: (Liss, 1986, p. 58)

Sources written by an organization: A source may not have an identifiable writer. In this case, check to see if it has been produced by an organization, institution, company or university which can be used in the citation in place of a writer’s name.

1st in-text citation for abbreviated names:

(United States Environmental Protection Agency [EPA], 1997, para. 1)

Any later citations:

(EPA, 1997, para. 1)

Names which cannot be abbreviated:

(The Soil Association, 2010, para. 1)

Sources with no writer: If there is no individual writer or an organization, then as the first part of the citation, give the title of the article. Capitalize the major words (all words except articles, pronouns, prepositions and auxiliary verbs of less than four letters) and put the title in quotation marks.

(“Nanotechnology Kills Cancer Cells”, 2005, para. 2)

If the title is a very long one, shorten it by choosing the most significant part of it.

Original title: Nanoliposomes and their applications in food nanotechnology

Citation with shortened title: (“Nanoliposomes”, 2008, p. 310)

Sources without a date: In some online sources, no date is available. In this situation, write **n.d.**, which means no date is given.

(Silvaram & Kulkarni, n.d., para. 1)

(“Global Positioning System”, n.d., p. 1)

Citing multiple pages: When paraphrasing, summarizing or quoting information which appears on multiple pages, use **pp.** before the page numbers. Continuous pages are separated by a hyphen, whereas discontinuous pages are separated by a comma.

(Stauffer, 2006, pp. 118-120)

(Stauffer, 2006, pp. 118, 121)

Online sources without original page numbers: Some sources on the web do not include original page numbers. Although page numbers may appear on them when printed, they are, in fact, only the numbers the printer gives them. If the page numbers cannot be seen on the screen prior to printing, to show which part of the source has been used, apply paragraph numbers and/or section titles,

whichever is available. If possible, both the paragraph number and section title should be provided a more straightforward location. Before the paragraph numbers, the abbreviation para. or the paragraph sign (§) can be used. The section title should be given in quotation marks.

(Dorfman, 2004, §10)

(Calzolaio, 2008, "Land Degradation")

(Sweet, 1999, "Expert System", para. 5-6)

Citing multiple sources: When making use of information from multiple sources and incorporating them in a paraphrase or summary, give the citations of all the sources used in the same parentheses separating them with semicolons. List the sources in alphabetical order.

(Bagwell, 2007, pp. 1703-1704; Leyens & Peters, 2003, p. 394)

If the writer wants the readers to refer to another source for the same kind of information, the phrase "see also" can be used before giving the citation of the suggested source(s) for further reading. In case, the sources that are written after the phrase "see also" should be given in alphabetical order.

(Nelson, 1974, pp. 729-730; see also Bagwell, 2007, p. 1703; Liss, 1986, p. 58)

Citing an entire chapter: To refer to a chapter as a whole, follow the format below.

(Rehg & Kraebber, 2005, Chapter 2)

Patent citation: Only give the patent number for in-text citations of patents.

(U.S. Patent No. 4,648,783)

Indirect information in a source: When using a source where there is a citation indicating that information has been taken from another source, both sources must be cited. To give the citation of indirect information that has been taken from another source, first refer to the writer (or writer(s) of the anonymous works, the title) of the secondary source in parenthesis followed by "cited in" or "quoted in" and then write the rest of the citation pertaining to the primary source.

A paraphrase or summary from a secondary source:

Secondary writer

writers of the primary source

↓ ↓
(McConnell cited in Messenger & Goswami, 2007, pp. 23-57)

A quotation from a secondary source:

(Çetinkaya quoted in Uğur & Şimşek, 1993, p. 555)

A paraphrase or summary from a secondary source with no writer:

("Patient's Dilemma" cited in Crooker, Baldwin & Chalasani, 2009, p. 169)

Preparing references for sources used

As mentioned earlier, in-text citations and a matching list of references are the two critical elements of proper acknowledgment. The aim of writing an in-text citation is for the reader to be able to locate the original source from which the cited information has come. Therefore, each in-text citation must have a corresponding reference entry. References must be prepared thoroughly and precisely by applying the standard rules of the style being followed.

The main rules for giving references in APA style

1. The "References" must be listed in **alphabetical order**. Alphabetization is according to the surname of the writer or organization. If there is no writer, the alphabetization is by the title of the work. While alphabetizing sources with multiple writers, do not change the order of the writers on the cover of the book. They should stay in the same order as in the original.
2. The entries are not numbered or bulleted. The list of references is typed using **hanging indentation** set at 0.5" (1.27 cm).
3. Each source entry ends with a **period** except for online sources with a web address at the end.

How to alphabetize the sources in the reference list

1. The titles which begin with "**a, an**" or "**the**" are alphabetized by the first word after the article. The reference entry below would therefore count as "g" in the alphabetical order.

The growing world population. (1994, March). *Population and Development*, 20, 233-238.

2. Titles which **begin with a number** are alphabetized considering the pronunciation of that number. The following reference entry would therefore count as "s" in the alphabetical order.

7 reasons why Google Chrome, the new Google browser, is a bad idea. (2008). Retrieved from <http://seo2.0.onreact.com/7-reasons-why-google-chrome-the-new-google-browser-is-a-bad-idea>

3. When using a **source written by a writer who is also the co-writer of another source** cited in the paper, enter the source with the single writer first in the reference list.

Zairi, M. (1999). *Benchmarking for best practice*. Bodmin, Cornwall: MPG Books.

Zairi, M., & Leonard, P. (1996). *Practical benchmarking: The complete guide*. London: Chapman & Hall.

4. If references are to be prepared for sources by the same writer(s), they are put in date order one written earlier is entered first.
 Bajaj, P., & Sengupta, A. K. (1985). Industrial applications of textiles: Textiles for filtration and coated fabrics. *Textile Progress*, 14(1), 1-39.
 Bajaj, P., & Sengupta, A. K. (1992). Protective clothing. *The Textile Institute*, 22(2, 3, 4), 1-6.
5. If **both the writers and the dates are the same**, then they are alphabetized by the title. For sake of clarity, lowercase "a" and lowercase "b" are added after the date both in the reference entry and in the citation.
 Sayers, R. (2010a). British economy shows fastest growth since 2001. *The First Post*. Retrieved from <http://www.thefirstpost.co.uk/67789,business,high-street-sales-hit-three-year-high-cbi-sales-above-predictions-retail>
 Sayers, R. (2010b). High Street sales hit three-year high. *The First Post*. Retrieved from <http://www.thefirstpost.co.uk/67843,business,uk-economy-boosted-by-construction-se>
6. If two sources have **multiple writers** and if the **first writers of the two sources are the same**, alphabetize by the second writer's surname.
 Chen, W. F., & Duan, L. (2003). *Bridge engineering: Seismic design*. Boca Raton, FL: CRC Press.
 Chen, W. F., & Lui, E. M. (2006). *Earthquake engineering for structural design*. Boca Raton, FL: Taylor & Francis.
7. If the writers of two different sources have **the same surname** but are **not the same writer**, alphabetize by their initials and always mention the initials in the citations in text.
 Muller, C. (1998). *Magnetic levitation for transportation*. Retrieved from www.railserve.com/maglev.html
 Muller, R. (2003, July). A pollution-free hydrogen economy? Not so soon. *Technology Review*. Retrieved from <http://www.technologyreview.com/Energy/13259/page2/>

Format rules for APA style references

1. WRITER

In all source entries, the information about the **writer** is provided **first** unless it is an anonymous work. In this part, only the surname and initials of the writer are given. If there are multiple writers, put an ampersand (&) between the last two writers.

Mckenzie, D.

Gethmann, C. F., & Thiele, F.

Botvin, G. J., Goldberg, C. J., Botvin, E. M., & Dusenbury, L.

For the reference entry of sources with **8 or more writers**, the first 6 writers are written in succession followed by **an ellipsis (...)**, and the entry is completed with the last writer.

Newman, S. T., Nassehi, A., Xu, X. W., Rosso, R. S., Wang, L., Yusof, Y., ..., Dhokia, V.

(2008, December). Strategic advantages of interoperability for global manufacturing using CNC technology. *Robotics and Computer-integrated Manufacturing*, 24(2008), 699-708. Retrieved from <http://portal.acm.org/citation.cfm?id=1411002>

If there is no individual writer, use the **full name** of the responsible **organization**.

United States Environmental Protection Agency. (2009). *Heat island impacts*. Retrieved from <http://www.epa.gov/heatisland/impacts/index.htm>

2. DATE

The **date** is always the **second** unit in a reference entry, whether there is an available writer or not. For most sources, only the year is written. For magazines, the month is added and for newspapers, the exact date is written.

Books, encyclopedias, journals, reports, conference papers, online articles etc.: (2001)
Article in a magazine: (2009, December)
Article in a newspaper: (2006, September 10)
No date available: (n.d.)

3. TITLE OF SOURCES

These titles will be in italics

Abstracts
Books / e-books / edited books
Encyclopedias
Journals / magazines / newspapers
Master's theses and doctoral dissertations
Conference papers and reports
Online articles

Do not put these titles in italics

Articles in a magazine
Articles in a journal
Articles in a newspaper

Articles in an encyclopedia
Chapters or articles in an edited book

These titles will be capitalized (First letter of each major word)

Encyclopedias
Journals
Magazines
Newspapers

Do not capitalize these titles

Books / e-books / edited books
Articles in magazines, journals, newspapers, encyclopedias and edited books
Conference papers and reports
Master's theses and doctoral dissertations

If the source is **of a special edition** such as a revised, expanded or numbered edition, this information is given in parenthesis as follows.

The management and control of quality (7th ed.).

Management (Rev. ed.).

When not to build (Exp. ed.).

* Although, the **title** of the source generally comes after the date as the **third** unit of entry in the references, an entry for **an anonymous source** begins with the title of the source itself.

4. PUBLICATION INFORMATION for books

All book entries end in the same way. First, the **city of publication** is provided followed by a "colon" (:), and then the name of the **publishing company** is given.

New York: Springer.

London: Chapman & Hall.

5. VOLUME / ISSUE / PAGE NUMBERS for journals, magazines & newspapers

While ending a journal or magazine entry, first the **volume number** is written in **italics**, then the **issue number** is given in **parenthesis**, and finally the first and last **page numbers** of the article are written in **regular** type face.

Newspapers do not have volume or issue numbers, in which case **only the page numbers** are given following the abbreviation p. or pp.

Magazine: *PC World*, 26(8), 82-90.

Newspaper: *The Economist*, pp. 72-75.

6. DOI or URL for web sources

If a **Digital Object Identifier (DOI)**, which is an alphanumeric unit, is available for an online document, it should be used in the references. DOI numbers are used for each location of articles on the web.

doi: 10.1080/00207720500438480

The insertion of the DOI number into the browser's location bar will immediately lead to the article that is being searched.

For example, for doi: **10.1038/nponc0024**, type: <http://dx.doi.org/10.1038/nponc0024>
This will take you to the entrance page of the desired article.

If a DOI number is not available, use the **Uniform Resource Locator [URL]** in the references.

Retrieved from <http://www.nanoforum.org>

Retrieval dates are included for documents that may be changed, edited, modified or deleted.

Retrieved December 25, 2009, from <http://solveclimate.com/blog/20080721/altair-nanotechnology-battery-faster-cooler-more-efficient>

While typing references, make sure the web address is not underlined and/or in blue. If it is, **remove the hyperlink formatting**. Also, if the web address is to be **divided**, it should be done **before the punctuation**.

Source reference examples with explanations

1. Reference entry of **BOOKS** is given as follows:

Zairi, M., & Leonard, P. (1996). *Practical benchmarking: The complete guide*. London: Chapman & Hall.

Writers with surnames and initials

date

book title in italics, but not capitalized

publication place

publisher

Book with a new edition:

Moughtin, C. (2003). *Urban design, street and square* (3rd ed.). Oxford: Architectural Press.

Vieira, E. R. (1996). *Elementary food science* (4th ed.). New York: Chapman & Hall.

Jones, J., & Wilson, W. (1995). *An incomplete education* (Rev. ed.). New York: The Random House.

2. Reference entry of **EDITED BOOKS** depends on the type of edited book.

Edited books in which there are **no separate chapters written by different writers** are entered as follows:

Boyle, A. (Ed.). (2004). *Renewable energy*. New York: Oxford University Press.

Editor

Editors

Cullen, T., & Foss, C. F. (Eds.). (1992). *Jane's land-based air defense* (5th ed.). Guildford: Biddles.

Edited books in which the **chapters have been written by different writers** are entered as follows:

Stauffer, N. (2006). Solar power is becoming more economical. (In) D. Gunkel (Ed.), *Alternative energy sources* (pp. 118-123). Farmington Hills, MI: Greenhaven Press.

Writer of chapter

Chapter title not in italics

Editor

book title in italics

pages of chapter

Breakey, J., Reilly, C., & Conell, H. (2002). The role of food additives and chemicals in behavioral, learning, activity, and sleep problems in children. In A. L. Branen, P. L. Davidson, S. Salminen & J. H. Thorngate. (Eds.), *Food additives* (2nd ed., rev. & pp. 87-100). New York: Marcel Dekker.

Second edition, revised and expanded

Multi-volume edited book with no separate chapter writers is entered as follows:

Gibson, R. N., Barnes, M., & Atkinson, R. J. A. (Eds.). (2001). *Oceanography and marine biology* (Vol. 39). London: Taylor & Francis.

3. In the reference entry of a **NON-ENGLISH BOOK**, the English translation of the title given in brackets after the original title.

Non-English title in italics

English translation of title in square brackets but not in italics

Ünalın, Ö. (2004). *Darwin ne yaptı?* [What did Darwin do?]. Istanbul: Papirüs.

Şen, Z. (2002). *Temiz enerji ve kaynakları* [Clean energy and its sources]. Istanbul: Su Vakfı.

4. In the reference entry of a **TRANSLATED BOOK**, the name of the translator(s) should be given after the title as follows:

date of translated version

Belitz, H. D., & Grosch, W. (1999). *Food chemistry* (2nd ed.) (M. Burghagen, D. Hadziyev, P. Hessel, S. Jordan & C. Sprinz, Trans.). New York: Springer. (Original work published in 1987)

date of original version

Translators

5. Reference entry of a **HANDBOOK**

Murphy, R. R., Tadokoro, S., Nardi, D., Jacoff, A., Fiorini, P., Choset, H., & Erkmen, A. M. (2008). Search and rescue robotics. In B. Siciliano & O. Khatib (Eds.), *Springer handbook of robotics* (pp. 1160-1164). Würzburg: Stürtz GmbH.

6. Reference entry of an **E-BOOK**

Electronic version of print book:

Royle, S. A. (2001). *A geography of islands: Small island insularity* [DX Reader version].

Retrieved from <http://www.ewidgetsonline.com/dxreader/Reader.aspx?token>

=R0PrjpKzPiQcLWUrKZDmGg%3d%3d&rand=1683609559&buyNowLink=&page
=&chapter=

Electronic-only book:

Shrout, R. N. (n.d.). *True hypnotism*. Retrieved from <http://www.onlineoriginals.com/showitem.asp?itemID=253>

7. Reference entry of an **ENCYCLOPEDIA ARTICLE** with no writer

chapter / article title not in italics or capitalized

encyclopedia title in italics and capitalized

Quantum mechanics. (1992). In *The New Encyclopedia Britannica* (Vol. IX, p. 841). Chicago:

Encyclopedia Britannica.

The word "In" at the beginning of the encyclopedia title (not italicised)

8. Reference entry of an **ELECTRONIC ENCYCLOPEDIA ARTICLE** with writers

Wood, M. B. (2007). Nuclear energy: Technology. In *Encyclopedia of Energy Engineering and Technology* (Vol. II, pp. 1125-1133). doi: 10.1201/9780849338960.ch131

doi

en son
kullanılır

Atmanspacher, H. (2011). Quantum approaches to consciousness. In *The Stanford Encyclopedia of Philosophy*. Retrieved from <http://plato.stanford.edu/archives/sum2011/entries/qt-consciousness/>

URL

9. Reference entry of a **MAGAZINE ARTICLE**

Segan, S., & Gideon, T. (2007, December). Fast, friendly multimedia marvel. *PC Magazine*, 26(24), 38-41.

magazine title in italics and capitalized

article title not in italics or capitalized

volume number in italics, issue number in parenthesis, with no space in between and page numbers of article regular

Magazine article with **no writer** is entered as follows:

Change is in the air. (2008, April). *PC Magazine*, 27(5), 25.

article title at the beginning

A magazine article with **no writer, no volume or issue number** is entered as follows:

Sheets and quilt covers. (2004, June/July). *TurkishTime Sectors*, 155-165.

page numbers

10. Reference entry of a **NON-ENGLISH ARTICLE** in a **MAGAZINE**

Taşgetiren, S. (1998, September/December). Rüzgar enerjisi [Wind energy]. *Ekoloji Dergisi*, 8(29), 25-30.

English translation of article title in brackets

11. Reference entry of an **ELECTRONIC MAGAZINE ARTICLE**

Preising, B., Hsia, T. C., & Mittelstadt, B. (1991, June). A literature review: Robots in medicine. *IEEE Engineering in Medicine and Biology Magazine*, 10(2), 13-22. Retrieved from <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=82001&tag=1>

URL

If no volume, issue or page numbers are available for a magazine, the entry is as follows:

Davis, S. (2012, January). Hybrid flywheel system extends UPS run times with batteries. *Power Electronics Technology*. Retrieved from http://powerelectronics.com/power_electronic_systems/ups/hybrid-flywheel-system-extends-ups-run-times-0112/

If the magazine article is retrieved from an **electronic database**, give the URL of the online archive.

The example below is the reference of an article retrieved from **ERIC database**.

Colony, L., & Foster, C. (2011, January). The technician beneath our wings, or is that blades? *Techniques: Connecting Education and Careers*, 86(1), 30-31. Retrieved from <http://www.eric.ed.gov/PDFS/EJ926035.pdf>

12. Reference entry of a JOURNAL ARTICLE

Title of article not in italics or capitalized

Journal title in italics and capitalized

Rendall, W. (1986). Mies revival. *The Architects' Journal*, 183(18), 40-46.

Parasuraman, R. (1997). Humans and automation: Use, misuse, disuse, abuse. *Human Factors*, 39(2), 249.

13. Reference entry of an ELECTRONIC JOURNAL ARTICLE

Paul, R., Bautista, L., Varga, M., Botet, J., Casals, E., Puntès, V., & Marsal, F. (2010). Nano-cotton fabrics with high ultraviolet protection. *Textile Research Journal*, 80(5), 454-

462. doi: 10.1177/0040517509342316

doi

Casbeer, D. W., Kingston, D. B., Beard, R. W., & McLain, T. W. (2004). Cooperative forest fire surveillance using a team of small unmanned air vehicles. *International Journal of System Science*, 37(6), 357-359. doi: 10.1080/00207720500438480

Boron CLS Bond. (n.d.). *The biodegradable, high performance, anti-corrosive lubrication technology* [Brochure]. Retrieved from <http://www.biolubrication.com/brochure>.

19. Reference entry of an **ABSTRACT**

Although it is recommended to give reference for the full text of an article, it is possible to use abstracts as a source.

Schlooz, W. A. J. M., & Hulstijn, W. (2012). A typical visuomotor performance in children with PDD [Abstract]. *Research in Autism Spectrum Disorders*, 6(1), 326-336.

20. Reference entry of an **ABSTRACT** retrieved **online**

Conrad, K. J., Iris, M., Ridings, J. W., Langley, K., & Anetzberder, G. J. (2010). Self-report measure of psychological abuse of older adults. *The Gerontologist*, 51(3), 354-366. Abstract retrieved from <http://gerontologist.oxfordjournals.org/content/51/3/354.abstract>

For material of limited circulation, **database name** and if available, **accession number** can be given.

Conrad, K. J., Iris, M., & Ridings, J. W. (2009). *Conceptualizing and measuring financial exploitation and psychological abuse of elderly individuals*. Abstract retrieved from National Criminal Justice Reference Service Abstracts database. (Accession No. 228632)

21. Reference entry of an **ONLINE ARTICLE** from the web

Individual writer:

Bojowald, M. (2005). *Loop quantum cosmology*. Retrieved from <http://relativity.livingreviews.org/Articles/lrr-2005-11/>

URL

Organization:

American Wind Energy Association. (2005). *The economics of wind energy*. Retrieved from <http://www.awea.org/pubs/factsheets/EconomicsOfWind-Feb2005.pdf>

Center of American Progress. (2007). *The top 100 effects of global warming*. Retrieved from http://www.americanprogress.org/issues/2007/09/climate_100.html

title at the beginning

No individual writer, no organization:

The bombing of Hiroshima and Nagasaki. (n.d.). Retrieved from <http://www.vce.com/hironaga.html>

no date

22. Reference entry of a NON-ENGLISH WEB ARTICLE

English translation of the title

Bal, Ç. (2005). *DNA ve kuantum deneyleri* [DNA and quantum experiments]. Retrieved from http://www.zamandayolculuk.com/cetinbalHTMLdosya1/DNA_KuantumDeneyleri.htm

23. Reference entry of an ARTICLE from a UNIVERSITY WEBSITE

UQ researchers make breakthrough in renewable energy materials. (2008). Retrieved from

The University of Queensland website: <http://www.uq.edu.au/news/index.html?article=14818>

name of university before web address

Lang, A., Paravicini, D., Pigneur, Y., & Revaz, E. (2002). *From customer relationship management (CRM) to supplier relationship management (SRM)*. Retrieved from Université de Lausanne website: <http://inforge.unil.ch/yp/Pub/02-SRM.pdf>

Amirhan
01.06.2017

24. Reference entry of **MASTER'S THESES** or **DOCTORAL DISSERTATIONS**

Altindemir, E. (2008). *Hibrid elektrikli taşıtlarda rejeneratif frenleme* [Regenerative braking on hybrid electric vehicles]. Unpublished master's thesis, Istanbul Technical University, Istanbul, Turkey.

master's thesis after the title

Atabay, B. (2010). *Doğal ve yapay ışığın mekanı anlamlandırma gücü ve bir arada bulunma dinamikleri* [The power of natural and artificial light in giving meaning to space and the dynamics of their coexistence]. Unpublished doctoral dissertation, Istanbul Technical University, Istanbul, Turkey.

doctoral dissertation after the title

25. Reference entry of **MASTER'S THESES** or **DOCTORAL DISSERTATIONS** from the web

Li, N. (2011). *Preserving urban landscapes as public history: A qualitative study of Kensington Market, Toronto*. Unpublished doctoral dissertation. Retrieved from http://scholarworks.umass.edu/open_access_dissertations/341

URL

26. Reference entry of **UNPUBLISHED CONFERENCE PAPERS**

Işık, F. T. (2004). *Keeping it full: The meaning of the refrigerator for domestic consumption and reproduction in modern everyday life in Turkey*. Paper presented at the Fourth International Conference on Design and Emotion, METU, Ankara, Turkey.

Place of conference

27. Reference entry of **CONFERENCE PAPERS** compiled in an **EDITED BOOK** form

Kurd, Z., Kelly, T., McDermid, J., Calinescu, R., & Kwiatkowska, M. (2009). Establishing a framework for dynamic risk management in 'intelligent' aero-engine control. In B. Buth, G. Rabe & T. Seyfarth (Eds.), *Lecture Notes in Computer Science: Vol. 5775. Proceedings of the 28th International Conference on Computer Safety, Reliability and*

Security (SAFEComp'09) (pp. 326-341). Berlin, Germany: Springer. doi: 10.1007/978-3-642-04468-7_26

28. Reference entry of **CONFERENCE PAPERS** retrieved from the web

Edgü, E., & Ünlü, A. (2003). *Relation of domestic space preferences with space syntax parameters*. Paper presented at the 4th Space Syntax Symposium, London, England. Retrieved from <http://www.spacesyntax.org/symposia/SSS4/fullpapers/82Edgu-Unlu-paper.pdf>

Hollmüller, P., Lachal, B., & Zraggen, J. (2006). *A new ventilation and thermal storage technique for passive cooling of buildings: Thermal phase-shifting*. Paper presented at The 23rd Conference on Passive and Low Energy Architecture, Geneva, Switzerland. Retrieved from www.bfe.admin.ch/php/modules/publikationen/stream.php

29. Reference entry of **REPORTS** published as **AN EDITED BOOK**

Pachauri, R. K., & Reisinger, A. (Eds.). (2008). *Climate change 2007: Synthesis report*. Geneva: IPCC.

The number assigned to the report in parenthesis

30. Reference entry of **REPORTS** retrieved from the web

Nieuwlaar, E., & Alsema, E. (1997). *Environmental aspects of PV power systems* (Workshop Report No: 97072). Retrieved from <http://www.ecotopia.com/apollo2/pvenv1997.pdf>

Nelson, P. A., Behrens, D., Castle, J., Crawford, G., Gaddam, R. N., Hackett, S. C., ..., Woo, S. (2008). *Developing wave energy in coastal California: Potential socio-economic and environmental effects* (PIER Report No: CEC-500-2008-083). Retrieved from <http://www.energy.ca.gov/2008publications/CEC-500-2008-083/CEC-500-2008-083.PDF>

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Altindemir, E. (2008). *Hibrid elektrikli taşıtlarda rejeneratif frenleme* [Regenerative braking on hybrid electric vehicles]. Unpublished master's thesis, Istanbul Technical University, Istanbul, Turkey.

master's thesis after the title

Atabay, B. (2010). *Doğal ve yapay ışığın mekanı anlamlandırma gücü ve bir arada bulunma dinamikleri* [The power of natural and artificial light in giving meaning to space and the dynamics of their coexistence]. Unpublished doctoral dissertation, Istanbul Technical University, Istanbul, Turkey.

doctoral dissertation after the title

25. Reference entry of MASTER'S THESES or DOCTORAL DISSERTATIONS from the web

Li, N. (2011). *Preserving urban landscapes as public history: A qualitative study of Kensington Market, Toronto*. Unpublished doctoral dissertation. Retrieved from http://scholarworks.umass.edu/open_access_dissertations/341

URL

26. Reference entry of UNPUBLISHED CONFERENCE PAPERS

Işık, F. T. (2004). *Keeping it full: The meaning of the refrigerator for domestic consumption and reproduction in modern everyday life in Turkey*. Paper presented at the Fourth International Conference on Design and Emotion, METU, Ankara, Turkey.

Place of conference

27. Reference entry of CONFERENCE PAPERS compiled in an EDITED BOOK form
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Security (SAFECOMP'09) (pp. 326-341). Berlin, Germany: Springer. doi: 10.1007/978-3-642-04468-7_26

28. Reference entry of **CONFERENCE PAPERS** retrieved from the web

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Hollmüller, P., Lachal, B., & Zraggen, J. (2006). *A new ventilation and thermal storage technique for passive cooling of buildings: Thermal phase-shifting*. Paper presented at The 23rd Conference on Passive and Low Energy Architecture, Geneva, Switzerland. Retrieved from www.bfe.admin.ch/php/modules/publikationen/stream.php

29. Reference entry of **REPORTS** published as **AN EDITED BOOK**

Pachauri, R. K., & Reisinger, A. (Eds.). (2008). *Climate change 2007: Synthesis report*. Geneva: IPCC.

The number assigned to the report in parenthesis

30. Reference entry of **REPORTS** retrieved from the web

Nieuwlaar, E., & Alsema, E. (1997). *Environmental aspects of PV power systems* (Workshop Report No: 97072). Retrieved from <http://www.ecotopia.com/apollo2/pvenv1997.pdf>

Nelson, P. A., Behrens, D., Castle, J., Crawford, G., Gaddam, R. N., Hackett, S. C., ..., Woo, S. (2008). *Developing wave energy in coastal California: Potential socio-economic and environmental effects* (PIER Report No: CEC-500-2008-083). Retrieved from http://www.energy.ca.gov/2008_publications/CEC-500-2008-083/CEC-500-2008-083.PDF

24. Reference entry of **MASTER'S THESES** or **DOCTORAL DISSERTATIONS**

Altindemir, E. (2008). *Hibrid elektrikli taşıtlarda rejeneratif frenleme* [Regenerative braking on hybrid electric vehicles]. Unpublished master's thesis, Istanbul Technical University, Istanbul, Turkey.

master's thesis after the title

Atabay, B. (2010). *Doğal ve yapay ışığın mekânı anlamlandırma gücü ve bir arada bulunma dinamikleri* [The power of natural and artificial light in giving meaning to space and the dynamics of their coexistence]. Unpublished doctoral dissertation, Istanbul Technical University, Istanbul, Turkey.

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URL

26. Reference entry of **UNPUBLISHED CONFERENCE PAPERS**

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Place of conference

27. Reference entry of **CONFERENCE PAPERS** compiled in an **EDITED BOOK** form

Kurd, Z., Kelly, T., McDermid, J., Calinescu, R., & Kwiatkowska, M. (2009). Establishing a framework for dynamic risk management in 'intelligent' aero-engine control. In B. Buth, G. Rabe & T. Seyfarth (Eds.), *Lecture Notes in Computer Science: Vol. 5775. Proceedings of the 28th International Conference on Computer Safety, Reliability and*

Security (SAFEComp'09) (pp. 326-341). Berlin, Germany: Springer. doi: 10.1007/978-3-642-04468-7_26

28. Reference entry of **CONFERENCE PAPERS** retrieved from the **web**

Edgü, E., & Ünlü, A. (2003). *Relation of domestic space preferences with space syntax parameters*. Paper presented at the 4th Space Syntax Symposium, London, England.
Retrieved from <http://www.spacesyntax.org/symposia/SSS4/fullpapers/82Edgu-Unlu-paper.pdf>

Hollmuller, P., Lachal, B., & Zraggen, J. (2006). *A new ventilation and thermal storage technique for passive cooling of buildings: Thermal phase-shifting*. Paper presented at The 23rd Conference on Passive and Low Energy Architecture, Geneva, Switzerland.
Retrieved from www.bfe.admin.ch/php/modules/publikationen/stream.php

29. Reference entry of **REPORTS** published as **AN EDITED BOOK**

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The number assigned to the report in parenthesis

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Nieuwlaar, E., & Alsema, E. (1997). *Environmental aspects of PV power systems* (Workshop Report No: 97072). Retrieved from <http://www.ecotopia.com/apollo2/pvenv1997.pdf>

Nelson, P. A., Behrens, D., Castle, J., Crawford, G., Gaddam, R. N., Hackett, S. C., ..., Woo, S. (2008). *Developing wave energy in coastal California: Potential socio-economic and environmental effects* (PIER Report No: CEC-500-2008-083). Retrieved from http://www.energy.ca.gov/2008_publications/CEC-500-2008-083/CEC-500-2008-083.PDF

31. Reference entry of a **MOTION PICTURE**

Abrams, J. J. (Producer & Director), & Lindelof, D. (Producer). (2009). *Star trek*. [Motion picture]. United States: Paramount Pictures.

Motion picture in brackets

32. Reference entry of a **PATENT**

patent number in italics

Brown, D. C. (2007). *United States Patent No. 7221552*. Washington, DC: U.S. Patent and Trademark Office.

Kenji, M. (2005). *European Patent No. 1739065 B1*. Rotterdam: European Patent Office.

Studying the following reference entries and trying to identify the type of source in each entry will help to clarify the APA reference list formatting rules.

Ancrenaz, M., Dabek, L., & O'Neil, S. (2007). The costs of exclusion: Recognizing a role for local communities in biodiversity conservation. *PLOS Biology*, 5(11), 2443-2448.
doi:10.1371/journal.pbio.0050289

Cantrell, B., & Michaels, W. (2010). *Digital design for landscape architecture:*

Contemporary techniques and tools for digital representation in site design. Retrieved from <http://www.ebooks.com/ebooks/book-display.asp?IID=487648>

Conway, H. (2000). Parks and people: The social functions. In J. Woudstra & K. Field (Eds.), *The regeneration of public parks* (pp. 9-20). London: E & FN Spon.

Dumlu, D. (2007). *The devil's blessing: Harry Truman and international control of the atomic bomb, September 1945-June 1946*. Unpublished master's thesis. Retrieved from http://www.bilkent.edu.tr/~history/index_files/MAAndPhDTheses.htm

Eckermann, E. (2001). *World history of the automobile* (P. L. Albrecht, Trans.). Warrendale, PA: Society of Automotive Engineers. (Original work published in 1989)

Erwid. (n.d.). *Caffeine effects*. Retrieved from <http://www.erowid.org/chemical/caffeine/caffeine-effects.shtml>

5 reasons why ERP & CRM are even more important during a recession. (2009). Retrieved from <http://jobfunctions.bnet.com/abstract.aspx?docid=1108423>

Gay, D., Hoa, S. V., & Tsai, S. W. (2003). *Composite materials design and applications*. Boca Raton, FL: CRC Press. *Chapter 12: Matrix composite*

Harrison, A., Loe, E., & Read, J. (Eds.). (1998). *Intelligent buildings in South East Asia*. London: E & FN Spon.

Healey, H. M. (1997). Cost-effective solar applications of commercial and industrial facilities. *Energy Engineering*, 94(4), 34-50. Retrieved from <http://proquest.umi.com/pgdweb?did=13553189&Fmt=4&clientId=36097&RQT=309&VName=PQD>

How do gasoline and electric vehicles compare? (n.d.). Retrieved from <http://avt.inel.gov/pdf/fsev/compare.pdf>

Jones, A. R., Gladstone, W., & Hacking, N. J. (2007). The Australian sandy-beach ecosystems and climate change: Ecology and management. *Australian Zoologist*, 34(2), 190-203.

Mateus, T., & Oliveria, A. C. (2009). Energy and economic analysis of an integrated solar absorption cooling and heating system in different building types and climates. *Applied Energy*, 86(6), 949-957.

Montgomery, R. H., & Budnick, J. (1978). *The solar decision book*. New York: John Wiley and Sons.

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Comparison between in-text citations and references

Below are some examples of in-text citations and references.

In text	In reference list
Book - one writer (Kalogirou, 2009, p. 667)	Kalogirou, S. A. (2009). <i>The solar engineering: Processes and systems</i> . Burlington, MA: Elsevier.
Book - multiple writers (Gay, Hoa & Tsai, 2003, p. 33)	Gay, D., Hoa, S. V., & Tsai, S.W. (2003). <i>Composite materials design and applications</i> . Boca Raton, FL: CRC Press.
Translated book (Finkenzeller, 2003, pp. 347-348)	Finkenzeller, K. (2003). <i>RFID handbook: Fundamentals and applications in contactless smart cards and identification</i> (2 nd ed.) (R. Waddington, Trans.). Chichester: John Wiley & Sons. (Original work published in 1999)
Book with a new edition (Hull & Clyne, 1996, p. 25)	Hull, D., & Clyne, T. W. (1996). <i>An introduction to composite materials</i> (2 nd ed.). Cambridge: Cambridge University Press.
Chapter or article in an edited book (Farber, 1981, p. 95)	Farber, E. A. (1981). Office tower reaches the sun. In R. L. Koral (Ed.), <i>Foundations of the solar future</i> (pp. 92-102). Atlanta: The Fairmont Press.
Journal article (Katan & Schouten, 2005, p. 539)	Katan, M. B., & Schouten, E. (2005). Caffeine and arrhythmia. <i>The American Journal of Clinical Nutrition</i> , 81(3), 539-540.
Journal article with 6 writers (Lapsa et al., 2007, pp. 14-16)	Lapsa, M. V., Maxey, L. C., Earl, D. D., Beshears, D. L., Ward, C. D., & Parks, J. E. (2007). Hybrid solar lighting provides energy savings and reduces waste heat. <i>Energy Engineering</i> , 104(4), 8-20.

<p>Online journal article (Wilson-Doenges, 2000, p. 598)</p>	<p>Wilson-Doenges, G. (2000). An exploration of sense of community and fear of crime in gated communities. <i>Environment and Behavior</i>, 32(5), 597-611. doi: 10.1177/00139160021972694</p>
<p>Online journal article with indirect information (Vogel cited in Bhushan, 2009, p. 1475)</p>	<p>Bhushan, B. (2009). Biomimetics: Lesson from nature — an overview. <i>Philosophical Transactions of the Royal Society</i>, 367(1899), 1445-1486. doi: 10.1098/rsif.2010.0487</p>
<p>Online journal article retrieved from a database (Ziêbowicz, Dobrzański, Drak & Wydrzyńska, 2008, pp. 90-92)</p>	<p>Ziêbowicz, B., Dobrzański, L. A., Drak, M., & Wydrzyńska, M. (2008). Corrosion resistance of composite materials Fe_{73.5}, Cu₁, Ni_{13.5}, B₉ – PE type in acid environment. <i>Archives of Materials Science and Engineering</i>, 30(2), 89-92. Retrieved from http://www.archivesmse.org/vol30_2/3026.pdf</p>
<p>Web article by a university (Lund University, 2009, "Food Processing")</p>	<p>Lund University. (2009). <i>Nanotechnology in food processing, packaging and safety</i>. Retrieved from Lund University web site: http://www.lu.se/upload/LUPDF/LU_Education/Nanotechnology%20in%20Food%20Processing,PackagingandSafety.pdf</p>
<p>Web article by a corporate writer (e.g. an association, institution or government department) (CSIC, 1999, pp. 1-3)</p>	<p>Coffee Science Information Center. (1999). <i>Coffee and gastrointestinal function</i>. Retrieved from http://www.cosic.org/coffee-and-health/gastrointestinal-function.</p>
<p>Web article without a writer ("Solar Water Heating Value", n.d., para. 3, 9)</p>	<p><i>Solar water heating value</i>. (n.d.). Retrieved from http://www.calseia.org/solar-water-heating-value.html</p>

Conference paper retrieved from the web (Landman, 2002, p. 7)	Landman, K. (2002). <i>Gated communities in South Africa: Building bridges or barriers?</i> Paper presented at International Conference on Private Urban Governance, Mainz, Germany. Retrieved from http://www.gatedcomsa.co.za/docs/bridges_barriers.pdf
Report retrieved from the web (Kliesch & Langer, 2006, pp. 4, 9)	Kliesch, J., & Langer, T. (2006). <i>Plug-in hybrids: An environmental and economic performance outlook</i> (Research Report No: T061). Retrieved from http://www.aceee.org/research-report/t061
Online news portal article with no writer ("Fast Food as Addictive as Heroin", 2003, para. 2-5)	Fast food as addictive as heroin. (2003, January 30). <i>BBC News</i> . Retrieved from http://news.bbc.co.uk/2/hi/health/2707143.stm
Online encyclopedia (WRI, 2009, "Scope of the Problem")	World Resources Institute. (2009). Alien species transport via ship ballast water. In <i>Encyclopedia of Earth</i> . Retrieved from http://www.eoearth.org/article/The_expansion_of_invasive_species_through_ship_ballast_water?topic=49480
Online encyclopedia with no writer ("Historical Development of Automation", n.d., para. 1-2)	Historical development of automation. (n.d.). In <i>Encyclopedia Britannica</i> . Retrieved from http://www.britannica.com/EBchecked/topic/44912/automation
Patent (U.S. Patent No. 5,429,365)	Mckeighen, J. F. (1995). <i>U.S. Patent No. 5,429,365</i> . California: U.S. Patent and Trademark Office.

Online journal article (Wilson-Doenges, 2000, p. 598)	Wilson-Doenges, G. (2000). An exploration of sense of community and fear of crime in gated communities. <i>Environment and Behavior</i> , 32(5), 597-611. doi: 10.1177/00139160021972694
Online journal article with indirect information (Vogel cited in Bhushan, 2009, p. 1475)	Bhushan, B. (2009). Biomimetics: Lesson from nature – an overview. <i>Philosophical Transactions of the Royal Society</i> , 367(1893), 1445-1486. doi: 10.1098/rsif.2010.0487
Online journal article retrieved from a database (Ziêbowicz, Dobrzański, Drak & Wydrzyńska, 2008, pp. 90-92)	Ziêbowicz, B., Dobrzański, L. A., Drak, M., & Wydrzyńska, M. (2008). Corrosion resistance of composite materials Fe _{73.5} , Cu ₁ , Nb ₁ , Si _{13.5} , B ₉ – PE type in acid environment. <i>Archives of Materials Science and Engineering</i> , 30(2), 89-92. Retrieved from http://www.archivesmse.org/vol30_2/3026.pdf
Web article by a university (Lund University, 2009, "Food Processing")	Lund University. (2009). <i>Nanotechnology in food processing, packaging and safety</i> . Retrieved from Lund University website http://www.lu.se/upload/LUPDF/LU_Education/Nano technology%20in%20Food%20Processing,Packaging andSafety.pdf
Web article by a corporate writer (e.g. an association, institution or government department) (CSIC, 1999, pp. 1-3)	Coffee Science Information Center. (1999). <i>Coffee and gastrointestinal function</i> . Retrieved from http://www.cosic.org/coffee-and-health/gastrointestinal-function .
Web article without a writer ("Solar Water Heating Value", n.d., para. 3, 9)	Solar water heating value. (n.d.). Retrieved from http://www.calseia.org/solar-water-heating-value.html

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Online encyclopedia with no writer ("Historical Development of Automation", n.d., para. 1-2)	Historical development of automation. (n.d.). In <i>Encyclopedia Britannica</i> . Retrieved from http://www.britannica.com/EBchecked/topic/44912/automation
Patent (U.S. Patent No. 5,429,365)	McKeighen, J. F. (1995). <i>U.S. Patent No. 5,429,365</i> . California: U.S. Patent and Trademark Office.

DRAFTING PROCESS

Drafting is a process used to arrange and prepare paragraphs by following steps such as writing topic sentences, note taking with proper citations, commenting on source information and writing concluding sentences.

Paragraphing

The claims made and the ideas presented to support the thesis statement must be explained within the body of the paper. This consists of a number of paragraphs, all of which follow major divisions specified in the thesis statement. The details in the body paragraphs should follow the outline.

Organization of paragraphs according to the outline

The Roman numerals (I II III) of an outline represent the major sections of the paper. These are the main divisions written in the thesis statement. Each main division has its own topic sentence.

- The capital letters (A B C) are paragraphs within a section that explain the subordinate ideas within the major divisions. A, B and C are written as separate paragraphs and are introduced by topic sentences.
- The Arabic numbers (1 2 3) and lowercase letters (a b c) are supporting points, examples and other evidence from source material. Each piece of evidence are introduced by a subtopic sentence. All information taken from sources requires a citation.
- Evidence presented as support is preceded or followed by personal comments and inferences.
- Finally, a paragraph ends with a concluding sentence.

The following diagram illustrates the **three main components** for the composition of a paragraph

Topic & subtopic sentences



for introducing main
and subordinate ideas

Supporting sentences



for presenting research
findings combined with
writer's original comments

Concluding sentence(s)



for ending the paragraph

A paragraph should show **unity and coherence**. Unity means the paragraph is centered and developed around only one main idea. Coherence means that the sentences in the paragraph are logically and clearly connected.

A research paper paragraph comprises both the writer's original ideas and the supporting details from the sources that will help to convince the reader that the writer's claims are all true. An orderly and coherent organization of all this information will make it a more effective paragraph.

Here is a sample organization for a paragraph both for A & B divisions.

Paragraph I A

- Topic sentence for I
- Topic sentence for A
- Subtopic sentence for A 1
- Research findings for A 1 and lower-case a, b, etc. if there are any
- Writer's comment and evaluation
- Subtopic sentence for A 2
- Research findings for A 2 and lower-case a, b, etc. if there are any
- Writer's comment and evaluation
- Concluding sentence for A

Paragraph I B

- Topic sentence for B
- Subtopic sentence for B 1
- Research findings for B 1 and lower-case a, b, etc. if there are any
- Writer's comment and evaluation
- Subtopic sentence for B 2
- Research findings for B 2 and lower-case a, b, etc. if there are any
- Writer's comment and evaluation
- Concluding sentence for B

Depending on the content requirements or fluency purposes, more than one topic, subtopic or concluding sentence may be used. Alternatively, combining topic and subtopic sentences can sometimes help to avoid unnecessary repetition.

Writing topic & subtopic sentences

Each major division of the thesis statement is expanded and described in at least two paragraphs, and every paragraph in the body of the paper begins with a topic sentence.

The topic sentence describes the paragraph as a whole and makes a claim that is supported in the paragraph by giving explanations and details. Therefore, all the ensuing sentences in the paragraph are connected and controlled by the topic sentence.

Apart from the topic sentences, there are also subtopic sentences written for the purpose of organizing the supporting details and presenting the research findings. In this way, fluency in expression and smoothness in the flow of ideas can be established.

Using the outline for preparing topic and subtopic sentences

The outline is used to prepare topic and subtopic sentences. Each division in the outline can be transformed into a grammatically correct and complete sentence.

- The A and subsequent paragraphs will each begin with a separate topic sentence. However, the A paragraphs will differ from the other paragraphs in that they will always start with the topic sentence that explains the main idea indicated by the Roman numeral (I II ...) and be followed by the subordinate idea indicated by A.
- Therefore, A paragraphs will be introduced by two topic sentences, whereas the remaining paragraphs (B C ...) will be introduced only by one topic sentence.
- The subdivisions in the outline shown by the Arabic numbers (1 2 3 ...) and lowercase letters if any (a b c ...) will serve as the subtopic sentences introducing the supporting details.

Using proper transition signals while writing topic sentences

- To ensure clarity and to set up a connection between all the topic sentences of the paper, writers should use similar grammatical structures.
- It is also recommended to use different transition signals for topic and subtopic sentences to increase variety and interest.

Preparing topic sentences for the main ideas in the Roman numerals (I II & III)

If the major divisions are made up of three adjectives describing the benefits of a topic like the ones below, the topic sentences for them can be worded as follows or in other similar ways:

Argument: DNA technology has many benefits.

Main ideas for the argument:

- I. Fast
- II. Accurate
- III. Practical

Topic sentences for the main ideas:

- I. The first significant benefit of DNA technology is the fact that it provides fast analysis.
- II. The second outstanding benefit of DNA technology is that it increases the accuracy of test and analysis results.
- III. Another very important benefit provided by DNA technology is the practicality of testing and analysis.

If the major divisions are made up of beneficial usage fields like the ones below, then the topic sentences for them can be written as in the following examples or in other similar ways:

Argument: DNA technology has many beneficial areas of use.

Main ideas for the argument:

- I. Medicine
- II. Forensic science
- III. Environmental protection

Topic sentences for the main ideas:

- I. The first and most important usage field which can benefit from DNA technology is medicine.
- II. The second field where remarkable benefits can be gained by using DNA technology is forensic science.
- III. Another field in which DNA technology can be an invaluable tool is environmental protection.

If the major ideas are useful applications like the ones listed below, the topic sentences for them can be constructed like the following examples:

Argument: Radio Frequency Identification (RFID) is one of the most advantageous methods of automatic identification technology due to its various applicable areas.

Main ideas for the argument:

- I. Asset management applications

- II. Inventory-warehouse applications
- III. Security and access control applications

Topic sentences for the main ideas:

- I. Asset management is the primary area that benefits from RFID technology.
- II. Secondly, inventory warehousing is also facilitated via RFID technology.
- III. Finally, RFID is also highly preferred for security and access control applications.

The supporting ideas in the outline can also be written in longer phrases. The topic sentences for the major divisions below could be written in a similar way to the following examples:

Argument: Online shopping is the best way to purchase many items.

Main ideas for the argument:

- I. Providing ease and convenience in purchasing
- II. Offering a wide variety of products from different brands
- III. Enabling economical shopping by allowing price comparison

Topic sentences for the main ideas:

- I. Firstly, online shopping allows ease and convenience when purchasing goods.
- II. Secondly, online shopping offers a wide variety of products from many different brands.
- III. Finally, online shopping enables economical shopping by price comparisons.

If the major divisions contain a counter idea, then the topic sentences should be organized carefully to make the focus clear. A transition will be necessary in the form of either a short separate transitional paragraph or additional information within the topic sentence in order to lead the reader from one idea to the next without creating any confusion. In the following example, a separate transitional paragraph has been prepared to provide a connection.

Thesis: Despite the zero pollution it offers, wave power is not an ideal type of energy due to its inconsistent and unpredictable production and ecological impacts.

Main supporting ideas:

- I. Zero pollution (counter idea: advantage of wave energy)
- II. Inconsistent and unpredictable production (first disadvantage)
- III. Ecological impacts (second disadvantage)

Topic sentences for the paper's main ideas and the transitional paragraph before the topic sentence of section II:

- I. The only beneficial characteristic of wave energy is the fact that it causes zero pollution.

Transitional paragraph before the topic sentence for II: For an energy type to be ideal, it should have more remarkable characteristics than just being green. It is a well-known fact that the world needs a

clean energy type, but this clean energy type should also be efficient and economical. Unfortunately, wave power does not offer these benefits.

II. The most striking negative aspect of wave energy is the fact that its production is inconsistent and unpredictable, which makes it inefficient.

III. Another serious concern wave energy presents is the possibility of detrimental ecological changes that it may bring about.

The major divisions below also contain a counter idea, but the argument here is positive, stating that nanotechnology is beneficial. This should be clarified after the explanation of potential dangers. Here the transition from one idea to the other is shown within the topic sentence for II.

Thesis: Although some believe the theory that an out-of-control nanoproces could result in the conversion of the entire Earth to “grey goo” in less than 48 hours, nanotechnology’s advantages for medicine, manufacturing and computer science must be developed and exploited.

Main supporting ideas:

- I. Grey goo scenario (counter idea: risk of nanotechnology)
- II. Medical advantages (first advantage of nanotechnology)
- III. Manufacturing advantages (second advantage)
- IV. Computer science advantages (third advantage)

Topic sentences for the main ideas:

- I. The “grey goo” scenario describes a situation where nanomachines simply build more of themselves rather than following any kind of control, converting any material to continue this process until there is no more left.

Transition from one idea to the other within the topic sentence for II: Although it is true that almost all industries and technologies have had unforeseen results, the advantages of working at the nano-scale are too great to refuse and the first, and perhaps most important, area for nanotechnology is medicine.

- III. In addition to medicine, nanotechnology also offers huge benefits to manufacturing as products can be made by growing materials and parts rather than reducing them from larger volumes and pieces.
- IV. Finally, nanotechnology will revolutionize computer science by allowing the development of molecule-sized hardware.

Preparing topic sentences for the ideas in the Capital letters (A B C) and subtopic sentences for the ideas in Arabic numbers (1 2 3) and lowercase letters (a b c)

Each major division in the outline (I II III ...) is divided into at least two subordinate divisions (A B C ...), and later into a minimum of two further subdivisions (1 2 3 ...). When necessary, the number of divisions may increase and the subdivisions for supporting details can also be divided into additional sections (a b c ...). The topic sentences introducing all these ideas should begin with appropriate transition signals.

A and B and all subsequent capital letters represent paragraphs within the main sections. Paragraphs marked A are the first division of each section, and the topic sentences of these paragraphs may be preceded by transition signals like the ones below:

To begin with - To start with - Above all - In the first place - First and foremost

The **topic sentences of the B and subsequent paragraphs** should, however, begin in a different way, clarifying the fact that they are a following division of the same section. It is also possible to remind readers of the idea stated in a paragraph by rephrasing it within the next paragraph's topic sentence. Here are some suggestions for transition signals for following paragraph topic sentences:

Without mentioning the idea in the previous paragraph:
The next ... Another ... A further ...

Mentioning the idea in the previous paragraph:
In addition to - Apart from - Aside from - Besides - Not only ... but also ...

The **subdivisions for Arabic numbers (1 2 3 ...)** are usually two or more examples or reasons, etc.; therefore, the transition signals for these sub-topic sentences should show that clearly.

For example - As an example - Primarily - Most importantly - One reason for that → for 1

Another example - Another reason for that - Furthermore - Moreover - What is more
In addition - Additionally → for subsequent divisions (2 3 ...)

The following **topic** and **subtopic sentences** about “Green Buildings” show how the transition signals have been used.

I. Efficiency of green buildings

A. In terms of energy consumption

1. Reduction of heating and cooling requirement
2. Reduction of electricity requirement

B. In terms of water consumption

1. Harvesting stormwater and rainwater
2. Reusing greywater and blackwater

I. **The first** significant advantage offered by green buildings is their efficiency.

A. **Above all**, green buildings consume less energy, which provides great operational savings.

1. **Primarily**, they ease the financial burden by reducing heating and cooling expenses.
2. **Furthermore**, residents end up paying smaller electricity bills as green buildings lower electricity consumption.

B. **As well as** their efficiency in energy consumption, green buildings are also efficient in terms of water usage.

1. **For example**, stormwater and rainwater are harvested in these buildings for later use.
2. **Additionally**, the reuse of greywater and blackwater in green buildings helps decrease water consumption.